

EPA I.D. NUMBER (copy from Item 1 of Form 1)

FORM 2B NPDES **EPA** U.S. ENVIRONMENTAL PROTECTION AGENCY
 APPLICATIONS FOR PERMIT TO DISCHARGE WASTEWATER
 CONCENTRATED ANIMAL FEEDING OPERATIONS AND AQUATIC ANIMAL PRODUCTION FACILITIES

I. GENERAL INFORMATION Applying for: Individual Permit Coverage Under General Permit

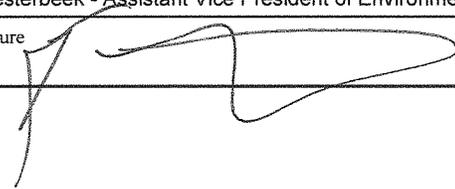
A. TYPE OF BUSINESS	B. CONTACT INFORMATION	C. FACILITY OPERATION STATUS
<input checked="" type="checkbox"/> 1. Concentrated Animal Feeding Operation (complete items B, C, D, and section II) <input type="checkbox"/> 2. Concentrated Aquatic Animal Production Facility (complete items B, C, and section III)	Owner/or Operator Name: <u>Murphy-Brown LLC</u> Telephone: (<u>804</u>) <u>834-2109</u> Address: <u>P.O. Box 1240</u> Facsimile: (<u>804</u>) <u>834-8926</u> City: <u>Waverly</u> State: <u>VA</u> Zip Code: <u>23890</u>	<input checked="" type="checkbox"/> 1. Existing Facility <input type="checkbox"/> 2. Proposed Facility

D. FACILITY INFORMATION
 Name: Murphy-Brown LLC Farm 18, 19 and 20 Telephone: (804) 834-2109
 Address: 25271 Newville Road Facsimile: (804) 834-8926
 City: Waverly State: Virginia Zip Code: 23890
 County: Sussex Latitude: 37 deg. 59 min. 05 sec. Longitude: 77 deg. 11 min. 09 sec.
 If contract operation: Name of Integrator: N/A
 Address of Integrator: N/A

II. CONCENTRATED ANIMAL FEEDING OPERATION CHARACTERISTICS

A. TYPE AND NUMBER OF ANIMALS			B. MANURE, LITTER, AND/OR WASTEWATER PRODUCTION AND USE
1. TYPE	2. ANIMALS		1. How much manure, litter, and wastewater is generated annually by the facility? <u>N/A</u> tons <u>30.6M</u> gallons 2. If land applied how many acres of land under the control of the applicant are available for applying the CAFOs manure/litter/wastewater? <u>222</u> acres 3. How many tons of manure or litter, or gallons of wastewater produced by the CAFO will be transferred annually to other persons? <u>0</u> tons <u>0</u> gallons
		NO. IN OPEN CONFINEMENT		NO. HOUSED UNDER ROOF
<input type="checkbox"/> Mature Dairy Cows			
<input type="checkbox"/> Dairy Heifers			
<input type="checkbox"/> Veal Calves			
<input type="checkbox"/> Cattle (not dairy or veal calves)			
<input checked="" type="checkbox"/> Swine (55 lbs. or over)		22,050	
<input checked="" type="checkbox"/> Swine (under 55 lbs.)		9,450	
<input type="checkbox"/> Horses			
<input type="checkbox"/> Sheep or Lambs			
<input type="checkbox"/> Turkeys			
<input type="checkbox"/> Chickens (Broilers)			
<input type="checkbox"/> Chickens (Layers)			
<input type="checkbox"/> Ducks			
<input type="checkbox"/> Other: Specify _____			
3. TOTAL ANIMALS		31,500	

C. <input checked="" type="checkbox"/> TOPOGRAPHIC MAP		
D. TYPE OF CONTAINMENT, STORAGE AND CAPACITY		
1. Type of Containment	Total Capacity (in gallons)	
<input type="checkbox"/> Lagoon		
<input type="checkbox"/> Holding Pond		
<input type="checkbox"/> Evaporation Pond		
<input type="checkbox"/> Other: Specify _____		
2. Report the total number of acres contributing drainage: <u>222</u> acres		
3. Type of Storage	Total Number of Days	Total Capacity (gallons/tons)
<input checked="" type="checkbox"/> Anaerobic Lagoon	180	95,671,910 gals.
<input type="checkbox"/> Storage Lagoon		
<input type="checkbox"/> Evaporation Pond		
<input type="checkbox"/> Aboveground Storage Tanks		
<input type="checkbox"/> Belowground Storage Tanks		
<input type="checkbox"/> Roofed Storage Shed		
<input type="checkbox"/> Concrete Pad		
<input type="checkbox"/> Impervious Soil Pad		
<input type="checkbox"/> Other: Specify _____		
E. NUTRIENT MANAGEMENT PLAN		
Note: Effective February 27, 2009, a permit application is not complete until a nutrient management plan is submitted to the Permitting Authority.		
1. Please indicate whether a nutrient management plan has been included with this permit application. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
2. If no, please explain:		
3. Is a nutrient management plan being implemented for the facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
4. The date of the last review or revision of the nutrient management plan. Date: <u>09/14/12</u>		
5. If not land applying, describe alternative use(s) of manure, litter, and/or wastewater:		
F. LAND APPLICATION BEST MANAGEMENT PRACTICES		
Please check any of the following best management practices that are being implemented at the facility to control runoff and protect water quality:		
<input checked="" type="checkbox"/> Buffers <input checked="" type="checkbox"/> Setbacks <input checked="" type="checkbox"/> Conservation tillage <input type="checkbox"/> Constructed wetlands <input type="checkbox"/> Infiltration field <input checked="" type="checkbox"/> Grass filter <input type="checkbox"/> Terrace		

III. CONCENTRATED AQUATIC ANIMAL PRODUCTION FACILITY CHARACTERISTICS					
A. For each outfall give the maximum daily flow, maximum 30-day flow, and the long-term average flow.			B. Indicate the total number of ponds, raceways, and similar structures in your facility.		
1. Outfall No.	2. Flow (<i>gallons per day</i>)			1. Ponds	2. Raceways
	a. Maximum Daily	b. Maximum 30 Day	c. Long Term Average	C. Provide the name of the receiving water and the source of water used by your facility.	
				1. Receiving Water	2. Water Source
D. List the species of fish or aquatic animals held and fed at your facility. For each species, give the total weight produced by your facility per year in pounds of harvestable weight, and also give the maximum weight present at any one time.					
1. Cold Water Species			2. Warm Water Species		
a. Species	b. Harvestable Weight (<i>pounds</i>)		a. Species	b. Harvestable Weight (<i>pounds</i>)	
	(1) Total Yearly	(2) Maximum		(1) Total Yearly	(2) Maximum
E. Report the total pounds of food during the calendar month of maximum feeding.			1. Month	2. Pounds of Food	
IV. CERTIFICATION					
<p><i>I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.</i></p>					
A. Name and Official Title (<i>print or type</i>)				B. Telephone (<u>910</u>) <u>293-3434</u>	
Kraig Westerbeek - Assistant Vice President of Environment, Health, & Safety					
C. Signature 				D. Date Signed <u>4-8-13</u>	

INSTRUCTIONS

<p>GENERAL</p> <p>This form must be completed by all applicants who check "yes" to Item II-B in Form I. Not all animal feeding operations or fish farms are required to obtain NPDES permits. Exclusions are based on size and whether or not the facility discharges proposed to discharge. See the description of these exclusions in the CAFO regulations at 40 CFR 122.23.</p> <p>For aquatic animal production facilities, the size cutoffs are based on whether the species are warm water or cold water, on the production weight per year in harvestable pounds, and on the amount of feeding in pounds of food (<i>for cold water species</i>). Also, facilities which discharge less than 30 days per year, or only during periods of excess runoff (<i>for warm water fish</i>) are not required to have a permit.</p> <p>Refer to the Form I instructions to determine where to file this form.</p> <p>Item I-A See the note above to be sure that your facility is a "concentrated animal feeding operation" (CAFO).</p> <p>Item I-B Use this space to give owner/operator contact information.</p> <p>Item I-C Check "proposed" if your facility is not now in operation or is expanding to meet the definition of a CAFO in accordance with the CAFO regulations at 40 CFR 122.23.</p> <p>Item I-D Use this space to give a complete legal description of your facility's location including name, address, and latitude/longitude. Also, if a contract grower, the name and address of the integrator.</p> <p>Item II Supply all information in item II if you checked (1) in item I-A.</p> <p>Item II-A Give the maximum number of each type of animal in open confinement or housed under roof (either partially or totally) which are held at your facility for a total of 45 days or more in any 12 month period. Provide the total number of animals confined at the facility.</p> <p>Item II-B Provide the total amount of manure, litter, and wastewater generated annually by the facility. Identify if manure, litter, and wastewater generated by the facility is to be land applied and the number of acres, under the control of the CAFO operator, suitable for land application. If the answer to question 3 is yes, provide the estimated annual quantity of manure, litter, and wastewater that the applicant plans to transfer off-site.</p> <p>Item II-C Check this box if you have submitted a topographic map of the entire operation, including the production area and land under the operational control of the CAFO operator where manure, litter, and/or wastewater are applied with Form I.</p>	<p>Item II-D</p> <ol style="list-style-type: none"> 1. Provide information on the type of containment and the capacity of the containment structure (s). 2. The number of acres that are drained and collected in the containment structure (s). 3. Identify the type of storage for the manure, litter, and/or wastewater. Give the capacity of this storage in days. <p>Item II-E Provide information concerning the status of submitting a nutrient management plan for the facility to complete the application. In those cases where the nutrient management plan has not been submitted, provide an explanation. If not land applying, describe the alternative uses of the manure, litter, and wastewater (<i>e.g.</i>, composting, pelletizing, energy generation, etc.).</p> <p>Item II-F Check any of the identified conservation practices that are being implemented at the facility to control runoff and protect water quality.</p> <p>Item III Supply all information in Item III if you checked (2) in Item I-A.</p> <p>Item III-A Outfalls should be numbered to correspond with the map submitted in Item XI of Form I. Values given for flow should be representative of your normal operation. The maximum daily flow is the maximum measured flow occurring over a calendar day. The maximum 30-day flow is the average of measured daily flow over the calendar month of highest flow. The long-term average flow is the average of measure daily flows over a calendar year.</p> <p>Item III-B Give the total number of discrete ponds or raceways in your facility. Under "other," give a descriptive name of any structure which is not a pond or a raceway but which results in discharge to waters of the United States.</p> <p>Item III-C Use names for receiving water and source of water which correspond to the map submitted in Item XI of Form I.</p> <p>Item III-D The names of fish species should be proper, common, or scientific names as given in special Publication No. 6 of the American Fisheries Society. "A List of Common and Scientific Names of Fishes from the United States and Canada." The values given for total weight produced by your facility per year and the maximum weight present at any one time should be representative of your normal operation.</p> <p>Item III-E The value given for maximum monthly pounds of food should be representative of your normal operation.</p> <p>Item IV The Clean Water Act provides for severe penalties for submitting false information on this application form.</p> <p>Section 309(C)(2) of the Clean Water Act provides that "Any person who knowingly makes any false statement, representation, or certification in any application... shall upon conviction, be punished by a fine of no more than \$10,000 or by imprisonment for not more than six months, or both."</p>
<p>Federal regulations require the certification to be signed as follows:</p> <ol style="list-style-type: none"> A. For corporation, by a principal executive officer of at least the level of vice president. B. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or C. For a municipality, State, federal, or other public facility, by either a principal executive officer or ranking elected official. 	<p>Paper Reduction Act Notice</p> <p>The public reporting and recordkeeping burden for this collection of information is estimated to average 9.5 hours per response. The public reporting and recordkeeping burden for development of the nutrient management plan to be submitted with the form is estimated to average 58 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.</p>

**VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
CONCENTRATED ANIMAL FEEDING OPERATIONS**

PERMIT APPLICATION ADDENDUM

For DEQ Use Only:

Complete: Yes No

Initials: _____

Date: _____

PLEASE TYPE OR PRINT ALL INFORMATION - ALL PARTS OF THIS FORM MUST BE COMPLETED

I. CONTACT INFORMATION

Owner Name:	Murphy-Brown LLC				
Mailing Address:	P.O. Box 1240				
City:	Waverly	State:	Virginia	Zip Code:	23890
E-Mail Address:	robritt@murphybrownllc.com				
Business Phone:	(804) 834-2109	Mobile Phone:	(804) 731-9603	Home Phone:	
Best day of the week & time to contact the applicant:	Day(s)		Time(s)		<input type="checkbox"/> AM
	Mon.- Fri.		8:00am - 5:00pm		<input type="checkbox"/> PM

II. FARM/FACILITY INFORMATION

Farm/Facility Name:	Murphy-Brown LLC Farm 18, 19, and 20		
Location:	25271 Newville Road, Waverly, Virginia, 23890		
Does Farm/Facility have an existing permit?	<input checked="" type="checkbox"/> Yes	If yes, Permit Number:	VPA00578
	<input type="checkbox"/> No		

III. FARM OPERATING MANUAL

- A. Operating Manual been developed for this facility? Has a Farm
 Yes No
- B. If yes, provide the date of the last review/revision of the Farm Operating Manual. Date: _____
- C. Manual (if already developed) is attached: A copy of the
 Yes No.
The attached copy may be a hard copy or an electronic copy.

IV. GROUNDWATER MONITORING PLAN

- A. If the facility has an existing permit, is groundwater monitoring required? Yes No
- B. Groundwater Monitoring Plan been developed for this facility? If yes, has a
 Yes No ? N/A
- C. If yes, provide the date of the last review/revision of the Groundwater Monitoring Plan. Date: _____
- D. If no, please explain: A geophysical evaluation of the site is underway to establish a framework for a new monitoring plan.

E.

A copy of the Plan (if already developed) is attached:
The attached copy may be a hard copy or an electronic copy.

? Yes No ? N/A

IV. DISCHARGE POINT AND BEST MANAGEMENT PRACTICES (BMPs) RELATED TO A DISCHARGE POINT

For each discharge point, provide the following information in the table below:

- a) a descriptive name of the discharge point;
- b) the latitude and longitude of its location;
- c) the name of the nearest potential receiving water;
- d) all areas contributing manure, litter, process wastewater, or storm water from the facility; and
- e) the treatment received or BMPs utilized, installed or constructed prior to the discharge point.

For DEQ Use: I.D. Number	Discharge Point	Latitude	Longitude	Name of Nearest Potential Receiving Water	Area Contributing Flow	Treatment or BMPs
1		36°58'59.83" N	77°10'3.37" W	Unnamed tributary of Assamoosick Swamp	Production Area – Farm 18	Secondary Containment
2		36°59'9.62" N	77°10'4.82" W	Unnamed tributary of Assamoosick Swamp	Production Area – Farm 18	Secondary Containment
3		36°59'4.10" N	77°9'55.92" W	Unnamed tributary of Assamoosick Swamp	Production Area – Farm 18	Secondary Containment
4		36°58'56.11" N	77°11'22.85" W	Unnamed tributary of Assamoosick Swamp	Production Area – Farm 19	Secondary Containment
5		36°59'5.21" N	77°11'31.00" W	Unnamed tributary of Assamoosick Swamp	Production Area – Farm 19	Secondary Containment
6		36°59'19.99" N	77°11'43.36" W	Unnamed tributary of Assamoosick Swamp	Production Area – Farm 20	Secondary Containment

V. BEST MANAGEMENT PRACTICES (BMPs)

- A. BMPs are utilized, installed or constructed for each of the areas listed in Section V above. X Yes No

B.

If no, please explain: _____

C. Attach to this Addendum, a description of the BMPs listed above in Section V or a copy of the Farm Operating Manual (if already developed). *The attached copy may be a hard copy or an electronic copy.*

VI. OTHER ATTACHMENTS (see instructions for requirements)

- A. The completed and signed Local Government Ordinance Form (LGOF) is attached: _____ ? Yes ? No On file with DEQ
- B. A copy of the Department of Conservation and Recreation (DCR) Nutrient Management Plan (NMP) approval letter is attached: _____ Yes ? No

VII. CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name: Kraig Westerbeek

Official Title: Assistant Vice President Environment, Health, & Safety

Signature: _____

Date: 5/14/2014

ADDITIONAL INFORMATION AND INSTRUCTIONS VPDES CAFO PERMIT APPLICATION ADDENDUM

GENERAL INFORMATION

This permit application addendum must be completed and submitted when an owner of a concentrated animal feeding operation makes application to the Department of Environmental Quality for a Virginia Pollutant Discharge Elimination (VPDES) Permit. Contact the nearest DEQ regional office if you have questions about completing this form. Please type or print all information. All parts of this form must be completed.

DEFINITION OF TERMS

Best Management Practice (BMP): means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to surface waters. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Process Wastewater: Process wastewater from an AFO means water directly or indirectly used in the operation of the AFO for any of the following: spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other AFO facilities; direct contact swimming, washing, or spray cooling of the (confined) animals; or dust control. Process wastewater from an AFO also includes any water that comes into contact with any raw materials, products, or byproducts including manure, litter, feed, milk, eggs or bedding.

Production Area: means that part of an AFO that includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The animal confinement area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage areas include but is not limited to feed silos, silage bunkers, and bedding materials. The waste containment area includes but is not limited to settling basins, and areas within berms and diversions that separate uncontaminated storm water. Also included in the definition of production area is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities.

Storm Water: means storm water run-off, snow melt run-off, and surface run-off and drainage.

APPLICATION ADDENDUM INSTRUCTIONS

I. CONTACT INFORMATION

Give the name, mailing address, telephone numbers and e-mail address (if available) of the person to whom this permit will be issued. Please provide the best day of the week and time for DEQ to make contact with the owner during regular working hours.

II. FARM/FACILITY INFORMATION

Give the name of the farm or facility. Give the physical location for the animal feeding operation other than the owner's mailing address (e.g. Rt. 653, 1 mile west of Rt. 702). List the number of any expiring or currently effective permits issued to the concentrated animal feeding operation under the VPA or VPDES permit program.

III. FARM OPERATING MANUAL

Indicate if a Farm Operating Manual has been developed for this facility. If yes, provide the date of the last review/revision of the Farm Operating Manual. If the Manual has already been developed then indicate whether a copy of the Manual is attached to this Addendum. *The attached copy may be a hard copy or an electronic copy.*

Permit requirements for development of a manual:

The Permittee shall develop and submit a Farm Operating Manual for approval by the Department within 90 days of the effective date of this permit. The Farm Operating Manual shall include at a minimum the following information:

- a. identification of land features or structures where storm water will likely leave the production area(s) and enter surface waters of the state;
- b. identification of land features or structures in the land application area(s) which will increase the risk of nitrogen and phosphorus transport to surface waters of the state; land features or structures include tile lines, pipes or ditches;
- c. practices and procedures which will be followed to ensure that the waste storage facilities are designed and operated in accordance with the permit;
- d. practices, procedures and applicable best management practices (BMPs) which will be utilized to ensure compliance with the requirements of this permit including but not limited to the following:
 - (1) if applicable, identification of the location of BMP(s) that are installed or will be installed at the CAFO facility, for BMP(s) that will be installed include the expected timeframe for installation;
 - (2) specification of appropriate maintenance that will be performed for each BMP(s);
 - (3) specification of the steps that will be taken in the event that a BMP(s) is found deficient,
 - (a) as a result of the visual inspections as required by the permit, or
 - (b) as a result of other routine inspections, as prescribed by the Farm Operating Manual, of BMP(s) utilized or installed in accordance with the permit.

The steps shall include any actions that will be taken to correct deficiencies in accordance with the permit.
- e. practices and procedures which will be followed to ensure that all equipment needed for the proper operation of the permitted facilities is maintained in good working order, including but not limited to the following:
 - (1) retention of the equipment manufacturer's operation and maintenance manuals or other reference source to allow for timely maintenance and prompt repair of equipment when appropriate; and
 - (2) specification of the frequencies of inspections in order to detect leaks on equipment used for liquid manure handling and land application; and
- f. an emergency plan which includes appropriate procedures for employees to follow in case of an emergency such as; an unauthorized discharge of manure, poultry waste, from the production area or catastrophic animal mortality. The emergency plan must include appropriate information for assistance with the particular emergency and must include contact information for local, state and federal agencies required to be notified in the case of any of the above mentioned events.

The Permittee shall operate the CAFO facility in accordance with the approved Farm Operating Manual which becomes an enforceable part of the permit. Any changes in those practices and procedures shall be documented and submitted to the Department for staff approval within 90 days of the effective date of the changes. The existing manual shall continue to be implemented until the revised manual is approved by the Department. Upon approval of submitted manual changes, the revised manual becomes an enforceable part of the permit. Noncompliance with the approved manual shall be deemed a violation of the permit.

IV. GROUNDWATER MONITORING PLAN

If the facility has an existing permit, indicate whether groundwater monitoring is required. If groundwater monitoring is required, indicate if a groundwater monitoring plan has been developed for this facility. If yes, provide the date of the last review/revision of the plan. If a plan has not been developed, please explain why the plan has not been developed. If the plan has already been developed then indicate whether a copy of the plan is attached to this Addendum. *The attached copy may be a hard copy or an electronic copy.*

Permit requirements for development of a plan:

The Permittee shall develop and submit a Groundwater Monitoring Plan for approval by the Department within 90 days of the effective date of this permit. The Groundwater Monitoring Plan shall include at a minimum the following information:

- (1) Procedures to ensure appropriate methods and practices are being used when monitoring groundwater, and
- (2) Procedures to ensure appropriate measures are taken where monitoring results demonstrate potential noncompliance with the permit and the approved monitoring plan.

V. DISCHARGE POINT AND BEST MANAGEMENT PRACTICES (BMPs) RELATED TO A DISCHARGE POINT

For each discharge point, provide the following information in the table below:

- a) a descriptive name of the discharge point;
- b) the latitude and longitude of its location;
- c) the name of the nearest potential receiving water;
- d) all areas contributing manure, litter, process wastewater, or storm water from the facility; and
- e) the treatment received or BMPs utilized, installed or constructed prior to the discharge point.

VI. BEST MANAGEMENT PRACTICES (BMPs)

If the facility has an existing permit, indicate whether groundwater monitoring is required. If groundwater monitoring is required, indicate if a groundwater monitoring plan has been developed for this facility. If yes, provide the date of the last review/revision of the plan. If a plan has not been developed, please explain why the plan has not been developed. If the plan has already been developed then indicate whether a copy of the plan is attached to this Addendum. *The attached copy may be a hard copy or an electronic copy*

VII. OTHER ATTACHMENTS

Local Government Ordinance Form (LGOF)

State Law requires that the owner of any proposed pollutant management activities or those which have not previously been issued a valid VPA or VPDES permit must attach to the permit application, the completed LGOF. The LGOF is the notification from the governing body of the county, city or town where the operation is located that the operation is consistent with all ordinances adopted pursuant to Chapter 22 (§ 15.2-2200 et seq.) of Title 15.2 of the Code of Virginia.

Nutrient Management Plan (NMP) Approval Letter

A copy of the letter from the Virginia Department of Conservation and Recreation (DCR) approving the operation's NMP and certifying that the NMP was developed by a certified nutrient management planner in accordance with §10.1-104.2 of the Code of Virginia must be attached to the permit application. However, if a current NMP approval letter is on file at the DEQ regional office then it is not necessary to attach the NMP approval letter.

VIII. CERTIFICATION STATEMENT

The Certification must bear an original signature in ink, photocopies are not acceptable. State regulations require the permit application to be signed as follows:

1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-making or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
3. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

BMP Description – Secondary Containment

The BMP is a grass covered earthen containment structure that collects runoff from the production area. The structure has a manually operated valve that is maintained as normally closed. The BMP is inspected daily by the farm production staff. Once water collects in the structure it is visually inspected to ensure it does not contain any contaminants and it released. The BMP has an emergency spillway for structural integrity during extreme rainfall events.

VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT CONCENTRATED ANIMAL FEEDING OPERATION

Permit Application Addendum

Murphy-Brown LLC
Farms 18, 19 and 20
Permit VPA 00578

VIII.B MORTALITY DISPOSAL METHODS

The mortality disposal method utilized for this site is rendering. Mortality is removed from the Barn and placed in a mortality ben for pickup and removal from the site. The mortality ben is a synthetic container with a lid. The dead box is picked up and emptied daily by truck, the contents of the box are delivered to the rendering facility. In the event unforeseen circumstances prevent daily pick up of mortality, the mortality is held inside the barn until daily removal can resume.

XI. CHEMICAL HANDLING METHODS

Murphy-Brown LLC maintains a list of all chemicals used on its facilities. The list of hazardous chemical used by Murphy-Brown is maintained by a third party contractor. The contractor provides emergency information for all products used by the company. This includes Material Safety Data Sheets outlining the manufactures guidelines for handling, storage, and disposal. Information is available 24 hours a day for all worksites within the Murphy-Brown organization. Employees are trained to handle, store, and dispose of chemicals pre the manufactures label. Chemicals are not disposed in any manure, process waste water or storm water.

Douglas W. Domenech
Secretary of Natural Resources



David A. Johnson
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

203 Governor Street
Richmond, Virginia 23219-2010
(804) 786-1712

October 24, 2012

Mr. R. O. Britt
Murphy-Brown Farms 8518, 8519 & 8520 (18,19, & 20)
P.O. Box 1240
Waverly, VA 23890

Dear Mr. Britt,

Your nutrient management plan (NMP), dated 9/14/2012, for a 31500 head swine operation has been approved by the Virginia Department of Conservation and Recreation for coverage under a Virginia Pollution Abatement (VPA) or Virginia Pollutant Discharge Elimination System (VPDES) permit. Your NMP was written by a nutrient management planner certified by the Virginia Department of Conservation and Recreation.

A copy of this letter must be kept with your nutrient management plan. A copy of this letter and a copy of the approved plan must be sent to the Piedmont Regional Office of the Virginia Department of Environmental Quality (DEQ).

It should be noted that this plan expires 9/14/2015. We recommend the process of revising this nutrient management plan begin at least six months prior to the expiration date.

If you have any questions concerning this letter, please feel free to contact me at bobby.long@dcr.virginia.gov or (434) 547-8172.

Sincerely,

A handwritten signature in cursive script that reads "Bobby Long".

Bobby Long
Nutrient Management Coordinator – Animal Waste
Division of Stormwater Management

cc: Tim Sexton, DCR Nutrient Management Program Manager
Kurt Elmer, Murphy-Brown LLC
DEQ Piedmont Regional Office

NUTRIENT MANAGEMENT PLAN IDENTIFICATION

Operator

Murphy-Brown LLC
434 East Main Street
Waverly, VA 23890
804-834-2109

Integrator:None

Farm Coordinates

Easting: 304400, Northing: 4095600, zone: 17

Watershed Summary

watershed: CU44
county: Sussex

Nutrient Management Planner

Kurt Elmer
4547 Otterdam Rd.
Waverly VA, 23890

Certification Code: 575

Acreage Use Summary

Total Acreage in this plan: 252.9

Cropland: 252.9
Hayland: 0.
Pasture: 0.
Specialty: 0.

Livestock Summary

Beef Cattle 0
Dairy Cattle 0
Poultry 0
Swine 31500
Other 0

Manure Production Balance

	Imported	Produced	Exported	Used	Net
kgals	0.	45698.1	0.	49847.3	-4149.2
tons	0.	0.	0.	0.	0.

Plan written 9/14/2012

Valid until 9/14/2015

Signature: _____

Kurt Elmer

Planner

10/17/12
date

Nutrient Management Plan Balance Sheet
(Fall, 2012-Fall, 2015)
Murphy Brown LLC Farms 18, 19, 20
Planner: Kurt Elmer (cert. No. 571)

Tract: 1233 Location: Sussex
(N = N based, 1P = P based, 1.5P = P based at 1.5 removal, 0P = No P allowed)

Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosid Rate & Type (season)	IT (d)	Man/Elos N-P-K (lbs/ac)	Net = Needs - applied N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes
2/13(N)	4/4	2012	Wheat (silage)	85-40-0	0/0	28.k 19&20S(Fa) 28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	21-18-299 21-18-299 86-73-1195	40-5-(600)	N/A	40-0-0(td)	1,2,3, 1,3,2 1,3,
		2013	Bermudagrass hay mt.	270-60-0	0/3	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	104-88-1451 21-18-299 21-18-299 86-73-1195	40-(90)-(3845)	N/A	40-0-0(td)	1,3 1,3,2, 1,3,2, 1,3,
		2014	Bermudagrass hay mt.	270-60-0	0/21	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	104-88-1451 21-18-299 21-18-299 86-73-1195	40-(185)-(7090)	N/A	40-0-0(td)	1,3 1,3,2, 1,3,2, 1,3,
		2015	Bermudagrass hay mt.	270-60-0	0/29	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	104-88-1451 21-18-299 21-18-299 86-73-1195	50-(285)-(9735)	N/A	50-0-0(td)	1,3
		2012	Wheat (silage)	85-40-0	0/0	28.k 19&20S(Fa) 28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	21-18-299 21-18-299 86-73-1195	40-5-(600)	N/A	40-0-0(td)	1,3,2, 1,3,2 1,3,
		2013	Bermudagrass hay mt.	270-60-0	0/3	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	104-88-1451 21-18-299 21-18-299 86-73-1195	40-(90)-(3845)	N/A	40-0-0(td)	1,3 1,3,2, 1,3,2, 1,3,
		2014	Bermudagrass hay mt.	270-60-0	0/21	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	104-88-1451 21-18-299 21-18-299 86-73-1195	60-(190)-(6490)	N/A	60-0-0(td)	1,3 1,3 1,3,2, 1,3,2, 1,3,
		2015	Bermudagrass hay mt.	270-60-0	0/29	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	104-88-1451 21-18-299 21-18-299 86-73-1195	40-(185)-(7090)	N/A	40-0-0(td)	1,3 1,3,2, 1,3,2, 1,3,
2/14(N)	4/4	2012	Wheat (silage)	85-40-0	0/0	28.k 19&20S(Fa) 28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	21-18-299 21-18-299 86-73-1195	40-5-(600)	N/A	40-0-0(td)	1,3,2, 1,3,2 1,3,
		2013	Bermudagrass hay mt.	270-60-0	0/3	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	104-88-1451 21-18-299 21-18-299 86-73-1195	80-(95)-(3245)	N/A	80-0-0(td)	1,3 1,3 1,3,2, 1,3,2, 1,3,
		2014	Bermudagrass hay mt.	270-60-0	0/21	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	104-88-1451 21-18-299 21-18-299 86-73-1195	60-(190)-(6490)	N/A	60-0-0(td)	1,3 1,3 1,3,2, 1,3,2, 1,3,
		2015	Bermudagrass hay mt.	270-60-0	0/29	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	104-88-1451 21-18-299 21-18-299 86-73-1195	50-(285)-(9735)	N/A	50-0-0(td)	1,3 1,3 1,3,2, 1,3,2, 1,3,

Tract: 1233 Location: Sussex

Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosid Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - applied N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes		
No Number/P3(N)	20/20	2012	Wheat (silage)	85-30-0	0/0	28.k 19&20S(Fa) 28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	21-18-299	40-(5)-(600)	N/A	40-0-0(td)	1,3,2, 1,3,2 1,3,		
				270-50-0	0/3	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi)	N/A	21-18-299 86-73-1195	80-(115)-(3245)	N/A	80-0-0(td)	1,3, 1,3,2, 1,3,2 1,3,		
				85-30-0	0/0	112.k 19&20S(Sp)	N/A	86-73-1195	60-(230)-(6490)	N/A	60-0-0(td)	1,3,		
		2014	Bermudagrass hay mt.	270-50-0	0/21	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi)	N/A	104-88-1451	N/A	104-88-1451	40-(235)-(7090)	N/A	40-0-0(td)	1,3, 1,3,2, 1,3,2 1,3,
				85-30-0	0/0	112.k 19&20S(Sp)	N/A	86-73-1195	50-(345)-(9735)	N/A	50-0-0(td)	N/A	50-0-0(td)	1,3, 1,3,
				270-50-0	0/29	136.k 19&20S(Su)	N/A	104-88-1451	40-(35)-(600)	N/A	40-0-0(td)	N/A	40-0-0(td)	4,3,2, 4,3,2 4,3,
		2015	Bermudagrass hay mt.	85-0-0	0/0	28.k 19&20S(Fa) 28.k 19&20S(Wi) 112.k 19&20S(Sp)	0/3	28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	21-18-299 86-73-1195	80-(195)-(3245)	N/A	80-0-0(td)	4,3 4,3, 4,3,2, 4,3,2 4,3,
				270-0-0	0/0	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi)	0/21	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi)	N/A	104-88-1451 21-18-299 21-18-299	40-(230)-(3845)	N/A	40-0-0(td)	4,3 4,3, 4,3,2, 4,3,2 4,3,
				270-0-0	0/21	112.k 19&20S(Sp)	0/29	112.k 19&20S(Sp)	N/A	86-73-1195	60-(390)-(6490)	N/A	60-0-0(td)	4,3 4,3 4,3, 4,3,2, 4,3,2 4,3,
		2015	Wheat (silage)	85-0-0	0/0	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi)	0/0	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi)	N/A	104-88-1451 21-18-299 21-18-299	40-(425)-(7090)	N/A	40-0-0(td)	4,3 4,3, 4,3,2, 4,3,2 4,3,
				270-0-0	0/29	112.k 19&20S(Sp)	0/29	112.k 19&20S(Sp)	N/A	86-73-1195	50-(585)-(9735)	N/A	50-0-0(td)	4,3, 4,3, 4,3, 4,3,
				270-0-0	0/29	136.k 19&20S(Su)	0/29	136.k 19&20S(Su)	N/A	104-88-1451	40-(585)-(9735)	N/A	50-0-0(td)	3,4
		No Number/P4(N)	12/12	2012	Wheat (silage)	85-0-0	0/0	28.k 19&20S(Fa) 28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	21-18-299	40-(35)-(600)	N/A	40-0-0(td)	4,3,2, 4,3,2 4,3,
						270-0-0	0/3	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi)	N/A	21-18-299 86-73-1195	80-(195)-(3245)	N/A	80-0-0(td)	4,3 4,3, 4,3,2, 4,3,2 4,3,
						85-0-0	0/0	112.k 19&20S(Sp)	N/A	86-73-1195	40-(230)-(3845)	N/A	40-0-0(td)	N/A	40-0-0(td)	4,3 4,3, 4,3,2, 4,3,2 4,3,
2014	Bermudagrass hay mt.	270-0-0	0/21	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi)	0/21	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi)	N/A	104-88-1451 21-18-299 21-18-299	60-(390)-(6490)	N/A	60-0-0(td)	4,3 4,3 4,3, 4,3,2, 4,3,2 4,3,		
		270-0-0	0/21	112.k 19&20S(Sp)	0/21	112.k 19&20S(Sp)	N/A	86-73-1195	60-(390)-(6490)	N/A	60-0-0(td)	4,3 4,3 4,3, 4,3,2, 4,3,2 4,3,		
		270-0-0	0/29	136.k 19&20S(Su)	0/29	136.k 19&20S(Su)	N/A	104-88-1451	40-(425)-(7090)	N/A	40-0-0(td)	4,3 4,3, 4,3,2, 4,3,2 4,3,		
2015	Bermudagrass hay mt.	85-0-0	0/0	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi)	0/0	136.k 19&20S(Su) 28.k 19&20S(Fa) 28.k 19&20S(Wi)	N/A	104-88-1451 21-18-299 21-18-299	40-(425)-(7090)	N/A	40-0-0(td)	4,3 4,3, 4,3,2, 4,3,2 4,3,		
		270-0-0	0/29	112.k 19&20S(Sp)	0/29	112.k 19&20S(Sp)	N/A	86-73-1195	50-(585)-(9735)	N/A	50-0-0(td)	4,3, 4,3, 4,3, 4,3, 4,3, 4,3,		
		270-0-0	0/29	136.k 19&20S(Su)	0/29	136.k 19&20S(Su)	N/A	104-88-1451	40-(585)-(9735)	N/A	50-0-0(td)	3,4		

Tract: 1233

Location: Sussex

Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosid Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - applied N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes
1, No Number/P5(N)	45/45	2012	Wheat (silage)	85-20-0	0/0	28.k 19&20S(Fa)	N/A	21-18-299	40-(15)-(600)	N/A	40-0-0(td)	1,3,2,
		2013	Bermudagrass hay mt.	270-40-0	0/3	28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	21-18-299	80-(135)-(3245)	N/A	80-0-0(td)	1,3,2 1,3,
				85-20-0	0/0	136.k 19&20S(Su) 28.k 19&20S(Fa)	N/A	21-18-299	40-(150)-(3845)	N/A	40-0-0(td)	1,3
		2014	Bermudagrass hay mt.	270-40-0	0/21	28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	21-18-299	60-(270)-(6490)	N/A	60-0-0(td)	1,3,2, 1,3,2 1,3,
				85-20-0	0/0	136.k 19&20S(Su) 28.k 19&20S(Fa)	N/A	104-88-1451	40-(285)-(7090)	N/A	40-0-0(td)	1,3
		2015	Bermudagrass hay mt.	270-40-0	0/29	28.k 19&20S(Wi) 112.k 19&20S(Sp)	N/A	21-18-299	50-(405)-(9735)	N/A	50-0-0(td)	1,3,2 1,3,
				85-20-0	0/0	136.k 19&20S(Su)	N/A	104-88-1451	85-20-0	N/A	85-0-0(td)	3,1 1,2,3
		1, 2 & No Number/Sub. 5(N)	31/31	2012	Wheat (silage)	85-20-0	0/0				85-20-0	N/A	85-0-0(td)	1,3
2013	Bermudagrass hay mt.			270-40-0	0/0				270-60-0	N/A	270-0-0(td)	1,2,3 1,3
				85-20-0	0/0				85-80-0 270-120-0	N/A	85-0-0(td) 270-0-0(td)	1,2,3 1,3
2014	Bermudagrass hay mt.			85-20-0	0/0				85-140-0 270-180-0	N/A	85-0-0(td) 270-0-0(td)	1,2,3 1,3

Commercial Application Methods:

br - Broadcast ba - Banded sd - Sidedress

Notes:

- 1 Do Not Exceed 0.80" / Application. Allow sufficient drying time between subsequent irrigations so that field capacity is not exceeded due to the irrigation events.
- 2 Small grain applications should be split so that half is applied in Fall/Early Winter and half in Early Spring.
- 3 Organic fertilizer applications may be used in addition to or in place of commercial fertilizer applications to supplement crop needs.
- 4 Do Not Exceed 0.60" / Application. Allow sufficient drying time between subsequent irrigations so that field capacity is not exceeded due to the irrigation events.

Tract: 1308 Location: Sussex
 (N = N based, 1P = P based, 1.5P = P based at 1.5 removal, 0P = No P allowed)

Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosid Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - applied N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes		
1 & 2/1(N)	6/6	2012	Wheat (silage)	85-30-0	0/0	28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281	40-10-(560)	N/A	40-0-0(td)	1,2,3, 1,2,3		
		2013	Bermudagrass hay mt.	270-50-0	0/1	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi)	N/A	24-10-281	60-(25)-(3050)	N/A	60-0-0(td)	1,2, 1,2,3, 1,2,		
		2014	Wheat (silage)	85-30-0	0/0	112.k 18S(Sp)	N/A	95-38-1124	40-(15)-(3610)	N/A	40-0-0(td)	1,2, 1,2,3, 1,2,3		
			Bermudagrass hay mt.	270-50-0	0/14	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi)	N/A	95-38-1124	45-(50)-(6100)	N/A	45-0-0(td)	1,2, 1,2,		
		2015	Wheat (silage)	85-30-0	0/0	112.k 18S(Sp)	N/A	115-46-1365	40-(40)-(6660)	N/A	40-0-0(td)	1,2, 1,2,3, 1,2,3		
			Bermudagrass hay mt.	270-50-0	0/19	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi)	N/A	95-38-1124	40-(75)-(9150)	N/A	40-0-0(td)	1,2, 1,2,		
		1 & 2/2(N)	6/6	2012	Wheat (silage)	85-30-0	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi)	N/A	115-46-1365	40-10-(560)	N/A	40-0-0(td)	1,2,3, 1,2,3
				2013	Bermudagrass hay mt.	270-50-0	0/1	112.k 18S(Sp)	N/A	24-10-281	60-(25)-(3050)	N/A	60-0-0(td)	1,2, 1,2,3, 1,2,3
				2014	Wheat (silage)	85-30-0	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi)	N/A	24-10-281	40-(15)-(3610)	N/A	40-0-0(td)	1,2, 1,2,3, 1,2,3
					Bermudagrass hay mt.	270-50-0	0/14	112.k 18S(Sp)	N/A	95-38-1124	45-(50)-(6100)	N/A	45-0-0(td)	1,2, 1,2,
2015	Wheat (silage)			85-30-0	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi)	N/A	115-46-1365	40-(40)-(6660)	N/A	40-0-0(td)	1,2, 1,2,3, 1,2,3		
			Bermudagrass hay mt.	270-50-0	0/19	112.k 18S(Sp)	N/A	95-38-1124	40-(75)-(9150)	N/A	40-0-0(td)	1,2, 1,2,		

Tract: 1308 Location: Sussex

Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosid Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - applied N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes		
3, 7/5(N)	7/7	2012	Wheat (silage)	85-30-0	0/0	28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 24-10-281	40-10-(560)	N/A	40-0-0(td)	1,2,3, 1,2,3		
		2013	Bermudagrass hay mt.	270-50-0	0/1	112.k 18S(Sp)	N/A	95-38-1124	60-(25)-(3050)	N/A	60-0-0(td)	1,2		
		2014	Wheat (silage)	85-30-0	0/0	136.k 18S(Su) 28.k 18S(Fa)	N/A	24-10-281	40-(15)-(3610)	N/A	40-0-0(td)	1,2		
			Bermudagrass hay mt.	270-50-0	0/14	28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 95-38-1124	45-(50)-(6100)	N/A	45-0-0(td)	1,2,3, 1,2,3		
		2015	Wheat (silage)	85-30-0	0/0	136.k 18S(Su) 28.k 18S(Fa)	N/A	24-10-281	40-(40)-(6660)	N/A	40-0-0(td)	1,2		
			Bermudagrass hay mt.	270-50-0	0/19	28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 95-38-1124	40-(75)-(9150)	N/A	40-0-0(td)	1,2,3, 1,2,3		
		3, 4 & 7/6(N)	6/6	2012	Wheat (silage)	85-30-0	0/0	136.k 18S(Su)	N/A	115-46-1365	40-10-(560)	N/A	40-0-0(td)	1,2
				2013	Bermudagrass hay mt.	270-50-0	0/1	28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 24-10-281 95-38-1124	60-(25)-(3050)	N/A	60-0-0(td)	1,2,3, 1,2,3
				2014	Wheat (silage)	85-30-0	0/0	136.k 18S(Su) 28.k 18S(Fa)	N/A	24-10-281	40-(15)-(3610)	N/A	40-0-0(td)	1,2
					Bermudagrass hay mt.	270-50-0	0/14	28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 95-38-1124	45-(50)-(6100)	N/A	45-0-0(td)	1,2,3, 1,2,3
2015	Wheat (silage)			85-30-0	0/0	136.k 18S(Su) 28.k 18S(Fa)	N/A	24-10-281	40-(40)-(6660)	N/A	40-0-0(td)	1,2		
			Bermudagrass hay mt.	270-50-0	0/19	28.k 18S(Wi) 112.k 18S(Sp)	N/A	95-38-1124	40-(75)-(9150)	N/A	40-0-0(td)	1,2,3, 1,2,3		
						136.k 18S(Su)	N/A	115-46-1365				1,2		

Tract: 1308

Location: Sussex

Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosid Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - applied N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes
4,777(N)	4/4	2012	Wheat (silage)	85-30-30	0/0	28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281	40-10-(530)	N/A	40-0-0(td)	1,2,3, 1,2,3 1,2,
		2013	Bermudagrass hay mt.	270-50-102	0/1	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 95-38-1124	60-(25)-(2920)	N/A	60-0-0(td)	1,2 1,2,3, 1,2,3 1,2,
		2014	Wheat (silage)	85-30-30	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 24-10-281 95-38-1124	40-(15)-(3450)	N/A	40-0-0(td)	1,2 1,2,3, 1,2,3 1,2,
		2015	Bermudagrass hay mt.	270-50-102	0/14	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 24-10-281 95-38-1124	45-(50)-(5840)	N/A	45-0-0(td)	1,2 1,2 1,2,3, 1,2,3 1,2,3 1,2,
		2012	Wheat (silage)	85-30-30	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	115-46-1365	40-(40)-(6370)	N/A	40-0-0(td)	1,2 1,2,3, 1,2,3 1,2,
		2013	Bermudagrass hay mt.	270-50-102	0/1	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 24-10-281 95-38-1124	40-(75)-(8760)	N/A	40-0-0(td)	1,2 1,2 1,2,3, 1,2,3 1,2,
		2014	Wheat (silage)	85-30-30	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	115-46-1365	40-10-(530)	N/A	40-0-0(td)	1,2,3, 1,2,3 1,2,
		2015	Bermudagrass hay mt.	270-50-102	0/19	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 24-10-281 95-38-1124	60-(25)-(2920)	N/A	60-0-0(td)	1,2 1,2 1,2,3, 1,2,3 1,2,
		2012	Wheat (silage)	85-30-30	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	115-46-1365	40-10-(530)	N/A	40-0-0(td)	1,2,3, 1,2,3 1,2,
		2013	Bermudagrass hay mt.	270-50-102	0/1	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 24-10-281 95-38-1124	60-(25)-(2920)	N/A	60-0-0(td)	1,2 1,2 1,2,3, 1,2,3 1,2,
2014	Wheat (silage)	85-30-30	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	115-46-1365	40-(15)-(3450)	N/A	40-0-0(td)	1,2 1,2,3, 1,2,3 1,2,		
2015	Bermudagrass hay mt.	270-50-102	0/19	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 24-10-281 95-38-1124	45-(50)-(5840)	N/A	45-0-0(td)	1,2 1,2 1,2,3, 1,2,3 1,2,		
4/8(N)	2/2	2012	Wheat (silage)	85-30-30	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281	40-10-(530)	N/A	40-0-0(td)	1,2,3, 1,2,3 1,2,
		2013	Bermudagrass hay mt.	270-50-102	0/1	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 95-38-1124	60-(25)-(2920)	N/A	60-0-0(td)	1,2 1,2 1,2,3, 1,2,3 1,2,
		2014	Wheat (silage)	85-30-30	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	115-46-1365	40-(15)-(3450)	N/A	40-0-0(td)	1,2 1,2,3, 1,2,3 1,2,
		2015	Bermudagrass hay mt.	270-50-102	0/19	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 95-38-1124	45-(50)-(5840)	N/A	45-0-0(td)	1,2 1,2 1,2,3, 1,2,3 1,2,
		2012	Wheat (silage)	85-30-30	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	115-46-1365	40-(40)-(6370)	N/A	40-0-0(td)	1,2 1,2,3, 1,2,3 1,2,
		2013	Bermudagrass hay mt.	270-50-102	0/1	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 24-10-281 95-38-1124	40-(75)-(8760)	N/A	40-0-0(td)	1,2 1,2 1,2,3, 1,2,3 1,2,
		2014	Wheat (silage)	85-30-30	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	115-46-1365	40-10-(530)	N/A	40-0-0(td)	1,2,3, 1,2,3 1,2,
		2015	Bermudagrass hay mt.	270-50-102	0/19	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 24-10-281 95-38-1124	60-(25)-(2920)	N/A	60-0-0(td)	1,2 1,2 1,2,3, 1,2,3 1,2,

Tract: 1308 Location: Sussex

Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/BioStd Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - applied N-P-K (lbs/ac)	Sum p rem cred	Commercial N-P-K (lbs/ac)	Notes			
8/9(N)	7/7	2012	Wheat (silage)	85-0-0	0/0	28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281	40-(20)-(560)	N/A	40-0-0(td)	1,2,3, 1,2,3 1,2,			
		2013	Bermudagrass hay mt.	270-0-0	0/1	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 95-38-1124	60-(105)-(3050)	N/A	N/A	60-0-0(td)	1,2, 1,2,3, 1,2,3		
		2014	Wheat (silage)	85-0-0	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	115-46-1365 24-10-281 24-10-281 95-38-1124	40-(125)-(3610)	N/A	N/A	40-0-0(td)	1,2, 1,2,3, 1,2,3		
			Bermudagrass hay mt.	270-0-0	0/14	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	115-46-1365 24-10-281 24-10-281 95-38-1124	45-(210)-(6100)	N/A	N/A	45-0-0(td)	1,2, 1,2, 1,2,3, 1,2,3		
		2015	Wheat (silage)	85-0-0	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	115-46-1365 24-10-281 24-10-281 95-38-1124	40-(230)-(6660)	N/A	N/A	40-0-0(td)	1,2, 1,2,3, 1,2,3		
			Bermudagrass hay mt.	270-0-0	0/19	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	115-46-1365 24-10-281 24-10-281 95-38-1124	40-(315)-(9150)	N/A	N/A	40-0-0(td)	1,2, 1,2, 1,2,3, 1,2,3		
		8/10(N)	7/7	2012	Wheat (silage)	85-0-0	0/0	28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281	40-(20)-(560)	N/A	40-0-0(td)	1,2,3, 1,2,3 1,2,	
				2013	Bermudagrass hay mt.	270-0-0	0/1	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	24-10-281 95-38-1124	60-(105)-(3050)	N/A	N/A	60-0-0(td)	1,2, 1,2,3, 1,2,3
				2014	Wheat (silage)	85-0-0	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	115-46-1365 24-10-281 24-10-281 95-38-1124	40-(125)-(3610)	N/A	N/A	40-0-0(td)	1,2, 1,2,3, 1,2,3
					Bermudagrass hay mt.	270-0-0	0/14	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	115-46-1365 24-10-281 24-10-281 95-38-1124	45-(210)-(6100)	N/A	N/A	45-0-0(td)	1,2, 1,2, 1,2,3, 1,2,3
2015	Wheat (silage)			85-0-0	0/0	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	115-46-1365 24-10-281 24-10-281 95-38-1124	40-(230)-(6660)	N/A	N/A	40-0-0(td)	1,2, 1,2,3, 1,2,3		
	Bermudagrass hay mt.			270-0-0	0/19	136.k 18S(Su) 28.k 18S(Fa) 28.k 18S(Wi) 112.k 18S(Sp)	N/A	115-46-1365 24-10-281 24-10-281 95-38-1124	40-(315)-(9150)	N/A	N/A	40-0-0(td)	1,2, 1,2, 1,2,3, 1,2,3		

Tract: 1308 Location: Sussex

Field CFS# No./Name	Size (ac) Total/Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosolid Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - appld N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes	
1,2/Sub 1-3(N)	7/7	2012	Wheat (silage)	85-30-0	0/0				85-30-0	N/A	85-0-0(td)	,1,3,2	
		2013	Bermudagrass hay mt.	235-50-0	0/0				235-80-0	N/A	235-0-0(td)	,1,2	
		2014	Wheat (silage)	85-30-0	0/0					85-110-0	N/A	85-0-0(td)	,1,3,2
			Bermudagrass hay mt.	235-50-0	0/0					235-160-0	N/A	235-0-0(td)	,1,2
		2015	Wheat (silage)	85-30-0	0/0					85-190-0	N/A	85-0-0(td)	,1,3,2
			Bermudagrass hay mt.	235-50-0	0/0					235-240-0	N/A	235-0-0(td)	,1,2
3,4,7/Sub 4-8(N)	8/8	2012	Wheat (silage)	85-30-0	0/0				85-30-0	N/A	85-0-0(td)	,1,3,2	
		2013	Bermudagrass hay mt.	270-50-0	0/0				270-80-0	N/A	270-0-0(td)	,1,2	
		2014	Wheat (silage)	85-30-0	0/0					85-110-0	N/A	85-0-0(td)	,1,3,2
			Bermudagrass hay mt.	270-50-0	0/0					270-160-0	N/A	270-0-0(td)	,1,2
		2015	Wheat (silage)	85-30-0	0/0					85-190-0	N/A	85-0-0(td)	,1,3,2
			Bermudagrass hay mt.	270-50-0	0/0					270-240-0	N/A	270-0-0(td)	,1,2
8/Sub 9-10(N)	3/3	2012	Wheat (silage)	85-0-0	0/0				85-0-0	N/A	85-0-0(td)	,1,3,2	
		2013	Bermudagrass hay mt.	235-0-0	0/0				235-0-0	N/A	235-0-0(td)	,1,2	
		2014	Wheat (silage)	85-0-0	0/0					85-0-0	N/A	85-0-0(td)	,1,3,2
			Bermudagrass hay mt.	235-0-0	0/0					235-0-0	N/A	235-0-0(td)	,1,2
		2015	Wheat (silage)	85-0-0	0/0					85-0-0	N/A	85-0-0(td)	,1,3,2
			Bermudagrass hay mt.	235-0-0	0/0					235-0-0	N/A	235-0-0(td)	,1,2

Commercial Application Methods:
br - Broadcast ba - Banded sd - Sidedress

Notes:

- 1 Do Not Exceed 0.80" / Application. Allow sufficient drying time between subsequent irrigations so that field capacity is not exceeded due to the irrigation events.
- 2 Organic fertilizer applications may be used in addition to or in place of commercial fertilizer applications to supplement crop needs.
- 3 Small grain applications should be split so that half is applied in Fall/Early Winter and half in Early Spring.

Tract: 2061 Location: Sussex
 (N = N based, 1P = P based, 1.5P = P based at 1.5 removal, 0P = No P allowed)

Field CFSA No. /Name	Size (ac) Total/ Used	Yr:	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosid Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - applied N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes			
2/11(N)	7/7	2012	Wheat (grain)	100-40-0	0/3	28.k 19&20S(Fa) 28.k 19&20S(Wi)	N/A	21-18-299	35-(15)-(895)	N/A		1,2,3,4			
			... ..	---		28.k 19&20S(Sp)	N/A	21-18-299				1,2,3,4		
			Sorghum (grain) Wheat (cover)	100-40-0 0-0-0	0/0	98.k 19&20S(Su)	N/A	75-64-1046	25-(40)-(1940) 0-(40)-(1940)	35-0-0(td) 25-0-0(td)	N/A N/A		1,2,3,4, 1,2,		
		2014	Corn (grain)	140-40-0	0/11	56.k 19&20S(Sp)	N/A	43-36-598	10-(100)-(3585)	10-0-0(ba)	N/A		1,2,5,6,7		
			Wheat (grain)	100-40-0	0/17	98.k 19&20S(Su) 28.k 19&20S(Fa)	N/A	75-64-1046	20-(115)-(4480)		N/A		1,2,7,6 1,2,3,4		
			... ..	---		28.k 19&20S(Wi)	N/A	21-18-299					1,2,3,4	
		2015	Sorghum (grain)	100-40-0	0/0	28.k 19&20S(Sp)	N/A	21-18-299	25-(140)-(5525)	20-0-0(td)	N/A		1,2,3,4, 1,2,		
				100-40-0	0/3	98.k 19&20S(Su)	N/A	75-64-1046	35-(15)-(895)	25-0-0(td)	N/A		1,2,3,4		
				---		28.k 19&20S(Wi)	N/A	21-18-299					1,2,3,4, 1,2,		
		2/12(N)	4/4	2013	Sorghum (grain)	100-40-0	0/0	28.k 19&20S(Sp)	N/A	21-18-299	25-(40)-(1940)	N/A	35-0-0(td)	1,2,3,4, 1,2,	
					Wheat (cover)	0-0-0	0/0	98.k 19&20S(Su)	N/A	75-64-1046	0-(40)-(1940)	25-0-0(td)	N/A		1,2,3,4, 1,2,
					Corn (grain)	140-40-0	0/11	56.k 19&20S(Sp)	N/A	43-36-598	10-(100)-(3585)	10-0-0(ba)	N/A		1,2,5,6,7
2014	Wheat (grain)			100-40-0	0/17	98.k 19&20S(Su)	N/A	75-64-1046	20-(115)-(4480)		N/A		1,2,6,7 1,2,3,4		
	... ..			---		28.k 19&20S(Wi)	N/A	21-18-299					1,2,3,4	
	Sorghum (grain)			100-40-0	0/0	98.k 19&20S(Sp)	N/A	21-18-299	25-(140)-(5525)	20-0-0(td)	N/A	25-0-0(td)	1,2,3,4, 1,2,		
2015	Sorghum (grain)	100-40-0	0/0	98.k 19&20S(Su)	N/A	75-64-1046			N/A		20-0-0(td) 25-0-0(td)	1,2,3,4, 1,2,			

Tract: 2061

Location: Sussex

Field CFSA No./Name	Size (ac) Total/Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosid Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - appld N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes		
1,2/P1(N)	34/34	2012	Wheat (grain)	100-40-0	0/3	28.k 19&20S(Fa) 28.k 19&20S(Wi) 28.k 19&20S(Sp) 98.k 19&20S(Su)	N/A	21-18-299 21-18-299 21-18-299 75-64-1046	35-(15)-(895)	N/A	N/A	1,2,3,4 1,2,3,4 1,2,3,4 1,2,		
				
			Sorghum (grain)	100-40-0	0/0	56.k 19&20S(Sp) 84.9k 19&20S(Su)	N/A	43-36-598 65-55-906	25-(40)-(1940) 0-(40)-(1940) 0-(90)-(3445)	N/A N/A	N/A N/A	35-0-0(td) 25-0-0(td)	1,2,5,6,7 1,2,6,7 1,2,3,4	
			Wheat (cover)	0-0-0	0/0	28.k 19&20S(Fa) 28.k 19&20S(Wi)	N/A	21-18-299 21-18-299	20-(105)-(4340)	N/A	N/A	N/A	20-0-0(td) 25-0-0(td)	1,2,3,4 1,2,3,4 1,2,
			Corn (grain)	120-40-0	0/11	28.k 19&20S(Sp) 98.k 19&20S(Su)	0/16	21-18-299 75-64-1046	25-(130)-(5385)	N/A	N/A	N/A	100-0-0(td)	1,2,3,4 1,2,
			Wheat (grain)	100-40-0	0/0	...	0/0	...	100-40-0	N/A	N/A	N/A	100-0-0(td)	1,3,2,4
		
			Sorghum (grain)	100-40-0	0/0	100-40-0	0/0	100-40-0	100-40-0	N/A	N/A	N/A	100-0-0(td)	1,2
			Wheat (grain)	100-40-0	0/0	0-0-0	0/0	0-0-0	0-0-0	N/A	N/A	N/A	100-0-0(td)	1,2
			Wheat (grain)	100-40-0	0/0	120-40-0	0/0	120-40-0	100-160-0	N/A	N/A	N/A	120-0-0(sd) 100-0-0(td)	1,5,6,7,2 1,3,2,4
1 & 2/Sub. 4(N)	21/21	2015	...	...	...	...	...	...	...	...	...	...
			Sorghum (grain)	100-40-0	0/0	100-40-0	0/0	100-40-0	100-200-0	N/A	N/A	100-0-0(td)	1,2	

Commercial Application Methods:

br - Broadcast ba - Banded sd - Sidedress

Notes:

- 1 Do Not Exceed 0.80" / Application. Allow sufficient drying time between subsequent irrigations so that field capacity is not exceeded due to the irrigation events.
- 2 Organic fertilizer applications may be used in addition to or in place of commercial fertilizer applications to supplement crop needs.
- 3 Small grain applications should be split so that half is applied in Fall/Early Winter and half in Early Spring.
- 4 For intensive management of wheat, pages 72-76 of the Standards and Criteria (pages attached), should be used.
- 5 Side-dress N with planter.
- 6 Recommended pre-side-dress soil nitrate test prior to side-dress application of N when corn is 10"-15" tall at the whorl.
- 7 Apply side-dress N when corn is between 12" and 24" tall.

Murphy Brown LLC Farms 18, 19, 20 Narrative

This nutrient management plan is an update for Murphy-Brown LLC farms 8518, 8519, and 8520; covered by permit number VPA00578. These farms are located off of state route 625 in Sussex County which intersects Jerusalem Plank Rd. (Rt. 35) west of the intersection of Sussex Dr. (Rt. 40) and Jerusalem Plank Rd. (Rt. 35).

Swine waste is stored and treated at the site by three primary anaerobic lagoons and two secondary anaerobic lagoons. Farms 19 and 20 also have secondary lagoon structures that are not currently used for swine waste treatment. (Cross over pipes have been capped) Under normal circumstances, effluent from the 18S and 19&20S lagoons will be utilized for effluent applications. The waste analysis for the 18S and 19&20S in this plan is the average of the last three analyses (one year). If circumstances arise that require direct land application from the other five lagoons (18P, 19P, 20P, 19S, 20S) they can also be land applied with irrigation equipment to corn, wheat, soybeans, double crop grain sorghum, Bermuda grass hay and small grain hay. Nutrient content of the primary and secondary lagoons on this site are analyzed in the months of March, June and September every year. The most current waste analysis is utilized to calculate nutrient application rates to the crops.

This site has approximately 252 acres of crop and hay land for effluent applications included in this NMP. During the life of this plan commercial fertilizer may be used in conjunction with or in place of effluent applications to supplement crop nutrient needs. Any commercial fertilizer application will be included in the application records for the farm and will not exceed the nutrient recommendations in this NMP.

Murphy-Brown LLC has adopted two new cropping rotation systems that are not addressed in the special conditions manure spreading schedule for swine; double crop grain sorghum and soybeans. Guidance provided by DCR (below) on manure application timing will be followed for the manure applications for these two crops.

Double-crop sorghum – (planted after Spring harvest of small grain) Effluent applications may begin after the small grain harvest and no more than 30 days prior to planting of the grain sorghum. Effluent applications may continue until ½ of the plants in the field have headed but not later than August 31. Total N applied cannot exceed nutrient needs less the residual N from previous effluent applications, legumes, etc. as defined in Standards and Criteria, revised October 2005.

Soybeans – (double crop and full season) Effluent applications may begin no more than 30 days prior to planting of the soybeans. However, effluent application is not recommended prior to growth stage V6 (six unfolded trifoliate leaves). Nitrogen needs will be established using expected yield for corn based on the soil productivity for the field. Effluent applications may continue until growth stage R6 (full-seed stage) but not later than September 30.

Soil Test Summary

Tract	Field	Acre	Date	P205	K20	Lab	Soil pH	Lime Date	rec. lime tons/Ac
1233	13	4	2011-Fa	H- (38 P lbs/acre)	VH (564 K lbs/acre)	Virginia Tech	7.8		
1233	14	4	2011-Fa	H- (38 P lbs/acre)	VH (564 K lbs/acre)	Virginia Tech	7.8		
1233	P3	20	2011-Fa	H (69 P lbs/acre)	VH (1214 K lbs/acre)	Virginia Tech	8.2		
1233	P4	12	2011-Fa	VH (152 P lbs/acre)	VH (502 K lbs/acre)	Virginia Tech	7.8		
1233	P5	45	2011-Fa	H+ (98.5 P lbs/acre)	VH (954 K lbs/acre)	Virginia Tech	7.4		
1233	Sub. 5	31	2011-Fa	H+ (91.2 P lbs/acre)	VH (815 K lbs/acre)	Virginia Tech	7.7		
1308	1	6	2011-Fa	H (73 P lbs/acre)	VH (908 K lbs/acre)	Virginia Tech	7.7		
1308	2	6	2011-Fa	H (73 P lbs/acre)	VH (908 K lbs/acre)	Virginia Tech	7.7		
1308	3	4	2011-Fa	H (73 P lbs/acre)	VH (908 K lbs/acre)	Virginia Tech	7.7		
1308	4	6	2011-Fa	H (84 P lbs/acre)	H (278 K lbs/acre)	Virginia Tech	8.		
1308	5	7	2011-Fa	H (83 P lbs/acre)	VH (1379 K lbs/acre)	Virginia Tech	8.4		
1308	6	6	2011-Fa	H (83 P lbs/acre)	VH (1379 K lbs/acre)	Virginia Tech	8.4		
1308	7	4	2011-Fa	H (84 P lbs/acre)	H (278 K lbs/acre)	Virginia Tech	8.		
1308	8	2	2011-Fa	H (84 P lbs/acre)	H (278 K lbs/acre)	Virginia Tech	8.		
1308	9	7	2011-Fa	VH (113 P lbs/acre)	VH (1367 K lbs/acre)	Virginia Tech	8.3		
1308	10	7	2011-Fa	VH (113 P lbs/acre)	VH (1367 K lbs/acre)	Virginia Tech	8.3		
1308	Sub 1-3	7	2011-Fa	H (73 P lbs/acre)	VH (908 K lbs/acre)	Virginia Tech	7.7		
1308	Sub 4-8	8	2011-Fa	H (83 P lbs/acre)	VH (1379 K lbs/acre)	Virginia Tech	8.4		
1308	Sub 9-10	3	2011-Fa	VH (113 P lbs/acre)	VH (1367 K lbs/acre)	Virginia Tech	8.3		
2061	11	7	2011-Fa	M+ (32 P lbs/acre)	VH (586 K lbs/acre)	Virginia Tech	7.		
2061	12	4	2011-Fa	M+ (32 P lbs/acre)	VH (586 K lbs/acre)	Virginia Tech	7.		
2061	P1	34	2011-Fa	H- (45 P lbs/acre)	VH (420 K lbs/acre)	Virginia Tech	7.		
2061	Sub. 4	21	2011-Fa	H- (45 P lbs/acre)	VH (420 K lbs/acre)	Virginia Tech	7.		

Manure Production Summary

Manure Name: 18P

Animal Summary
Feeder Swine: 10500

Manure Storage Capacity: 11669. kgals

Manure Analysis:

TKN: 16.44
P2O5: 21.31
NH4: 7.51
K2O: 12.81

Plant Available Nutrients:

Immediate Incorporation:

11.22 lbs N
21.31 lbs P2O5
12.81 lbs K2O

Surface Applied:

7.84 lbs N
21.31 lbs P2O5
12.81 lbs K2O

Residual N:

yr 1: 1.07 lbs
yr 2: .45 lbs
yr 3: .18 lbs

Manure Production

Dec-Feb	3354
Mar-May	3354
Jun-Aug	3354
Sep-Nov	3354

Total Produced: 13418

Manure Sold/yr: 0

Manure purch./yr: 0

Liquid Manure Production Details

$$\text{production [kgal/yr]} = (\# \text{ confined})[\text{animals}] * (\text{avg wt})[\text{animal-lbs/animal}] * (\text{prod factor})[\text{gal/yr/animal-lb}] * (0.001)[\text{kgal/gal}] + (\# \text{ confined})[\text{animals}] * (\text{waste-water})[\text{gal/day/animal}] * (365)[\text{day/yr}] * (0.001)[\text{kgal/gal}]$$

Group Name	animal type	%(#) confined	avg wt	prod factor	waste water	production
Wean to Finish	Feeder Swine	100(10500)	145.0	2.74	2.0	11683.4

Net Precipitation Excess

$$\text{NPE [kgal/yr]} = \{\text{precip (55.[in/yr])} - \text{evap (40.[in/yr])}\} * \text{pit/lagoon factor (0.9)} * \text{surface area (146450.[sq-ft])} * (1/12)[\text{ft/in}] * (7.48)[\text{gal/cu-ft}] * (0.001)[\text{kgal/gal}] = 1734.46[\text{kgal/yr}]$$

Manure Name: 18S

Animal Summary

Feeder Swine: 0

Manure Storage Capacity: 6735. kgals

Manure Analysis:

TKN: 2.05

P2O5: .34

NH4: 1.69

K2O: 10.04

Plant Available Nutrients:

Immediate Incorporation:

1.52 lbs N

.34 lbs P2O5

10.04 lbs K2O

Surface Applied:

.76 lbs N

.34 lbs P2O5

10.04 lbs K2O

Residual N:

yr 1: .04 lbs

yr 2: .02 lbs

yr 3: .01 lbs

Manure Production

Dec-Feb 390

Mar-May 390

Jun-Aug 390

Sep-Nov 390

Total Produced: 1561

Manure Sold/yr: 0

Manure purch./yr: 0

Liquid Manure Production Details
production [kgal/yr] = (# confined)[animals] * (avg wt)[animal-lbs/animal] * (prod factor)[gal/yr/animal-lb] * (0.001)[kgal/gal] + (#

confined[animals] * (waste-water)[gal/day/animal] * (365)[day/yr] * (0.001)[kgal/gal]

Group Name	animal type	%(#) confined	avg wt	prod factor	waste water	production
Wean to Finish	Feeder Swine	100(0)	145.0	2.74	0.1	0.0

Net Precipitation Excess

NPE [kgal/yr] = {precip (55.[in/yr]) - evap (40.[in/yr])} * pit/lagoon factor (0.9) * surface area (131843.[sq-ft]) * (1/12)[ft/in] * (7.48)[gal/cu-ft] * (0.001)[kgal/gal] = 1561.46[kgal/yr]

Manure Name: 19P

Animal Summary
Feeder Swine: 10500

Manure Storage Capacity: 10520. kgals

Manure Analysis:

TKN: 6.01
P2O5: .76
NH4: 4.84
K2O: 14.43

Plant Available Nutrients:

Immediate Incorporation:

4.94 lbs N
.76 lbs P2O5
14.43 lbs K2O

Surface Applied:

2.76 lbs N
.76 lbs P2O5
14.43 lbs K2O

Residual N:

yr 1: .14 lbs
yr 2: .06 lbs
yr 3: .02 lbs

Manure Production

Dec-Feb 3152
Mar-May 3152
Jun-Aug 3152
Sep-Nov 3152

Total Produced: 12608

Manure Sold/yr: 0

Manure purch./yr: 0

production [kgal/yr] = (# confined)[animals] * (avg wt)[animal-lbs/animal] * (prod factor)[gal/yr/animal-lb] * (0.001)[kgal/gal] + (#
Liquid Manure Production Details

confined[animals] * (waste-water)[gal/day/animal] * (365)[day/yr] * (0.001)[kgal/gal]

Group Name	animal type	%(#) confined	avg wt	prod factor	waste water	production
Wean to Finish	Feeder Swine	100(10500)	145.0	2.74	2.0	11683.4

Net Precipitation Excess

NPE [kgal/yr] = {precip (55.[in/yr]) - evap (40.[in/yr])} * pit/lagoon factor (0.9) * surface area (78050.[sq-ft]) * (1/12)[ft/in] * (7.48)[gal/cu-ft] * (0.001)[kgal/gal] = 924.37[kgal/yr]

Manure Name: 20P

Animal Summary
Feeder Swine: 10500

Manure Storage Capacity: 11510. kgals

Manure Analysis:

TKN: 8.18
P2O5: 1.32
NH4: 6.59
K2O: 13.11

Plant Available Nutrients:

Immediate Incorporation:

6.73 lbs N
1.32 lbs P2O5
13.11 lbs K2O

Surface Applied:

3.76 lbs N
1.32 lbs P2O5
13.11 lbs K2O

Residual N:

yr 1: .19 lbs
yr 2: .08 lbs
yr 3: .03 lbs

Manure Production

Dec-Feb 3173
Mar-May 3173
Jun-Aug 3173
Sep-Nov 3173

Total Produced: 12694

Manure Sold/yr: 0

Manure purch./Yr: 0

production [kgal/yr] = (# confined)[animals] * (avg wt)[animal-lbs/animal] * (prod factor)[gal/yr/animal-lb] * (0.001)[kgal/gal] + (#
Liquid Manure Production Details

confined][animals] * (waste-water)[gal/day/animal] * (365)[day/yr] * (0.001)[kgal/gal]

Group Name	animal type	%(#) confined	avg wt	prod factor	waste water	production
Wean to Finish	Feeder Swine	100(10500)	145.0	2.74	2.0	11683.4

Net Precipitation Excess

$NPE \text{ [kgal/yr]} = \{ \text{precip (55.[in/yr])} - \text{evap (40.[in/yr])} \} * \text{pit/lagoon factor (0.9)} * \text{surface area (85320.[sq-ft])} * (1/12)[\text{ft/in}] * (7.48)[\text{gal/cu-ft}] * (0.001)[\text{kgal/gal}] = 1010.47[\text{kgal/yr}]$

Manure Name: 19&20S

Animal Summary
Feeder Swine: 0

Manure Storage Capacity: 26055. kgals

Manure Analysis:

TKN: 2.08
P2O5: .65
NH4: 1.53
K2O: 10.67

Plant Available Nutrients:

Immediate Incorporation:

1.38 lbs N
.65 lbs P2O5
10.67 lbs K2O

Surface Applied:

.69 lbs N
.65 lbs P2O5
10.67 lbs K2O

Residual N:

yr 1: .07 lbs
yr 2: .03 lbs
yr 3: .01 lbs

Manure Production

Dec-Feb 933
Mar-May 933
Jun-Aug 933
Sep-Nov 933

Total Produced: 3731

Manure Sold/yr: 0

Manure purch./yr: 0

Liquid Manure Production Details
production [kgal/yr] = (# confined)[animals] * (avg wt)[animal-lbs/animal] * (prod factor)[gal/yr/animal-lb] * (0.001)[kgal/gal] + (#

confined][animals] * (waste-water)[gal/day/animal] * (365)[day/yr] * (0.001)[kgal/gal]

Group Name	animal type	%(#) confined	avg wt	prod factor	waste water	production
Wean to Finish	Feeder Swine	100(0)	145.0	2.74	1.0	0.0

Net Precipitation Excess

NPE [kgal/yr] = {precip (55.[in/yr]) - evap (40.[in/yr])} * pit/lagoon factor (0.9) * surface area (315000.[sq-ft]) * (1/12)[ft/in] * (7.48)[gal/cu-ft] * (0.001)[kgal/gal] = 3730.65[kgal/yr]

Manure Name: 19S

Animal Summary
Feeder Swine: 0

Manure Storage Capacity: 7480. kgals

Manure Analysis:

TKN: .25
P2O5: 1.15
NH4: .17
K2O: .56

Plant Available Nutrients:

Immediate Incorporation:

.15 lbs N
1.15 lbs P2O5
.56 lbs K2O

Surface Applied:

.08 lbs N
1.15 lbs P2O5
.56 lbs K2O

Residual N:

yr 1: .01 lbs
yr 2: .00 lbs
yr 3: .00 lbs

Manure Production

Dec-Feb 196
Mar-May 196
Jun-Aug 196
Sep-Nov 196

Total Produced: 783

Manure Sold/yr: 0

Manure purch./yr: 0

Liquid Manure Production Details
production [kgal/yr] = (# confined)[animals] * (avg wt)[animal-lbs/animal] * (prod factor)[gal/yr/animal-lb] * (0.001)[kgal/gal] + (#

confined[animals] * (waste-water)[gal/day/animal] * (365)[day/yr] * (0.001)[kgal/gal]

Group Name	animal type	%(#) confined	avg wt	prod factor	waste water	production
Wean to Finish	Feeder Swine	100(0)	145.0	2.74	0.1	0.0

Net Precipitation Excess

$NPE [kgal/yr] = \{precip (55.[in/yr]) - evap (40.[in/yr])\} * pit/lagoon\ factor (0.9) * surface\ area (66150.[sq-ft]) * (1/12)[ft/in] * (7.48)[gal/cu-ft] * (0.001)[kgal/gal] = 783.44[kgal/yr]$

Manure Name: 20S

Animal Summary
Feeder Swine: 0

Manure Storage Capacity: 8615. kgals

Manure Analysis:

TKN: .33
P2O5: 1.15
NH4: .17
K2O: .68

Plant Available Nutrients:

Immediate Incorporation:

.15 lbs N
1.15 lbs P2O5
.68 lbs K2O

Surface Applied:

.08 lbs N
1.15 lbs P2O5
.68 lbs K2O

Residual N:

yr 1: .02 lbs
yr 2: .01 lbs
yr 3: .00 lbs

Manure Production

Dec-Feb 226
Mar-May 226
Jun-Aug 226
Sep-Nov 226

Total Produced: 903

Manure Sold/yr: 0

Manure purch./yr: 0

production [kgal/yr] = (# confined)[animals] * (avg wt)[animal-lbs/animal] * (prod factor)[gal/yr/animal-lb] * (0.001)[kgal/gal] + (#
Liquid Manure Production Details

confined[animals] * (waste-water)[gal/day/animal] * (365)[day/yr] * (0.001)[kgal/gal]

Group Name	animal type	%(#) confined	avg wt	prod factor	waste water	production
Wean to Finish	Feeder Swine	100(0)	145.0	2.74	0.1	0.0

Net Precipitation Excess

NPE [kgal/yr] = {precip (55.[in/yr]) - evap (40.[in/yr])} * pit/lagoon factor (0.9) * surface area (76260.[sq-ft]) * (1/12)[ft/in] * (7.48)[gal/cu-ft] * (0.001)[kgal/gal] = 903.17[kgal/yr]

Field Productivities for Major Crops

Tract Name	Tract/ Field	Field Name	Acres	Predominant Soil Series	Corn	Small Grain	Alfalfa	Grass Hay	Environmental Warnings	
1233	864/2	13	4	Emporia	IIla	II	III	II		
	864/2	14	4	Slagle	IIb	I	III	I		
	864/No Numbe	P3	20	Emporia	IIla	II	III	II		
	864/No Numbe	P4	12	Emporia	IIlb	II	III	II		
	864/1, No Nu	P5	45	Emporia	IIla	II	III	II		
	864/1, 2 & N	Sub. 5	31	Emporia	IIlb	II	III	II		
	1308	438/1 & 2	1	6	Slagle	IIla	II	III	II	
		438/1 & 2	2	6	Slagle	IIla	II	III	II	
		438/2 & 8	3	4	Slagle	IIla	I	III	I	
		438/3,4	4	6	Slagle	IIb	I	III	I	
438/3,7		5	7	Slagle	IIb	I	III	II		
438/3, 4 & 7		6	6	Slagle	IIb	I	III	I		
438/4,7		7	4	Slagle	IIb	I	III	I		
438/4		8	2	Ocilla	IIa	I	III	I		
438/8		9	7	Slagle	IIla	II	III	II		
438/8		10	7	Slagle	IIla	II	III	III		
2061	438/1,2	Sub 1-3	7	Slagle	IVa	III	III	IV		
	438/3,4,7	Sub 4-8	8	Slagle	IIa	I	III	I		
	438/8	Sub 9-10	3	Slagle	IIlb	II	III	III		
	1119/2	11	7	Slagle	IIla	II	III	II		
	1119/2	12	4	Slagle	IIla	II	III	II		
	1119/1,2	P1	34	Slagle	IVa	III	III	III		
1119/1 & 2	Sub. 4	21	Slagle	IVa	III	III	III			

Yield Range

Field Productivity Group	Corn Grain Bu/Acre	Barley/Intensive Wheat Bu/Acre	Std. Wheat Bu/Acre	Alfalfa Tons/Acre	Grass/Hay Tons/Acre
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I	>170	>80	>64	>6	>4.0
II	150-170	70-80	56-64	4-6	3.5-4.0
III	130-150	60-70	48-56	<4	3.0-3.5
IV	100-130	50-60	40-48	NA	<3.0
V	<100	<50	<40	NA	NA

Farm Summary Report

Plan: Murphy Brown LLC Farms 18-20 Fall, 2012 - Fall, 2015

Farm Name: Murphy Brown LLC Farms 18, 19, 20

Location: Sussex
Specialist: Kurt Elmer
N-based Acres: 252.9
P-based Acres: 0.0

Tract Name: 1233

FSA Number: 864
Location: Sussex

Field Name: 13

Total Acres: 3.61 Usable Acres: 3.61
FSA Number: 2
Tract: 1233
Location: Sussex
Slope Class: A Hydrologic Group: C

Riparian buffer width: 2000 ft
Distance to stream: 2000 ft

Conservation Practices:
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: VA P-Index Calculation
P-Index value = 22.52

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.13 tons/acre

Soil Test Results:

DATE PH P K Lab
 Fa-2011 7.8 H-(38 P lbs/acre) VH(564 K lbs/acre) Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
60	12A	Emporia Slagle
40	12B	Emporia Slagle

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	5.6 * tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	5.6 * tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	5.6 * tons	Bermudagrass (hay), maint. - No Till

Field Name: 14
 Total Acres: 4.34 Usable Acres: 4.34
 FSA Number: 2
 Tract: 1233
 Location: Sussex
 Slope Class: B Hydrologic Group: C

Riparian buffer width: 2000 ft
 Distance to stream: 2000 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

N-based
 Phosphorus Limit method: VA P-Index Calculation
 P-Index value = 22.86

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
 T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.37 tons/acre

Soil Test Results:

DATE PH P K Lab
 Fa-2011 7.8 H-(38 P lbs/acre) VH(564 K lbs/acre) Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
95	25B	Slagle
5	12A	Emporia Stagle

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	6.5 * tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	6.5 tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	6.5 tons	Bermudagrass (hay), maint. - No Till

Field Name:

P3
 Total Acres: 20.32 Usable Acres: 20.32
 FSA Number: No Number
 Tract: 1233
 Location: Sussex
 Slope Class: B Hydrologic Group: A

Riparian buffer width: 800 ft
 Distance to stream: 1200 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

N-based
 Phosphorus Limit method: VA P-Index Calculation
 P-Index value = 22.83

%slope: 0.0 Slope Len: 0.0 R factor: 0.0 K factor: 0.0
 T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.19 tons/acre

Soil Test Results:
 DATE PH P H(69 P lbs/acre) K VH(1214 K lbs/acre) Lab
 Fa-2011 8.2 8.2 H(69 P lbs/acre) K VH(1214 K lbs/acre) Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
60	12B	Emporia Slagle
40	12C	Emporia Slagle

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	5.6 * tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	5.6 * tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	5.6 * tons	Bermudagrass (hay), maint. - No Till

Field Name: P4
 Total Acres: 11.65 Usable Acres: 11.65
 FSA Number: No Number
 Tract: 1233
 Location: Sussex
 Slope Class: C Hydrologic Group: A

Riparian buffer width: 800 ft
 Distance to stream: 900 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

N-based

Phosphorus Limit method: VA P-Index Calculation

P-Index value = 23.9

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.37 tons/acre

Soil Test Results:

DATE PH P SYMBOL SOIL SERIES Lab
Fa-2011 7.8 VH(152 P lbs/acre) K VH(502 K lbs/acre) Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
40	12C	Emporia Slagle
40	12B	Emporia Slagle
10	10C3	Craven
10	20D	Emporia Nevarc

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	4.8 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	4.8 tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	4.8 tons	Bermudagrass (hay), maint. - No Till

Field Name:

P5

Total Acres: 44.75 Usable Acres: 44.75

FSA Number: 1, No Number

Tract: 1233
Location: Sussex
Slope Class: B Hydrologic Group: C

Riparian buffer width: 2000 ft
Distance to stream: 2000 ft

Conservation Practices:
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: VA P-Index Calculation
P-Index value = 23.23

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.28 tons/acre

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2011	7.4	H+(98.5 P lbs/acre)	VH(954 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
15	12B	Emporia Slagle
50	12A	Emporia Slagle
25	12C	Emporia Slagle
10	20D	Emporia Nevarc

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	5.3 * tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till

2014-Sp 5.3 * tons Bermudagrass (hay), maint. - No Till
 2014-Fa 2.0 * tons Wheat (silage) - No Till
 2015-Sp 5.3 * tons Bermudagrass (hay), maint. - No Till

Field Name: Sub. 5

Total Acres: 30.62 Usable Acres: 30.62

FSA Number: 1, 2 & No Number

Tract: 1233

Location: Sussex

Slope Class: C Hydrologic Group: C

Riparian buffer width: 800 ft
 Distance to stream: 900 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

N-based

Phosphorus Limit method: VA P-Index Calculation

P-Index value = 1.38

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
 T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.4 tons/acre

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2011	7.7	H+(91.2 P lbs/acre)	VH(815 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
35	12C	Emporia Slagle
10	20D	Emporia Nevarc
15	25B	Slagle
10	10C3	Craven
30	12A	Emporia Slagle

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	4.9 * tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	4.9 * tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	4.9 * tons	Bermudagrass (hay), maint. - No Till

Tract Name: 1308

FSA Number: 438

Location: Sussex

Field Name: 1

Total Acres: 5.91 Usable Acres: 5.91

FSA Number: 1 & 2

Tract: 1308

Location: Sussex

Slope Class: A Hydrologic Group: C

Riparian buffer width: 2000 ft

Distance to stream: 2000 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

N-based

Phosphorus Limit method: VA P-Index Calculation

P-Index value = 13.49

%slope: 0.0

Slope Len: 0.

R factor: 0.0

K factor: 0.0

T factor: 0.0

P factor: 1.0

Cmax: 0.000

Erosion: 0.22 tons/acre

Soil Test Results:

DATE PH P Lab
Fa-2011 7.7 H(73 P lbs/acre) K VH(908 K lbs/acre) Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
45	25A	Slagle
20	33A	Myatt Yemassee
35	25B	Slagle

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	5.2 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	5.2 tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	5.2 tons	Bermudagrass (hay), maint. - No Till

Field Name:

2

Total Acres: 6.15 Usable Acres: 6.15

FSA Number: 1 & 2

Tract: 1308

Location: Sussex

Slope Class: A Hydrologic Group: C

Riparian buffer width: 2000 ft

Distance to stream: 2000 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

N-based

Phosphorus Limit method: VA P-Index Calculation

P-Index value = 13.15

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
 T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.18 tons/acre

Soil Test Results:

DATE PH P K Lab
 Fa-2011 7.7 H(73 P lbs/acre) VH(908 K lbs/acre) Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
20	25B	Slagle
65	25A	Slagle
15	33A	Myatt Yemassee

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	5.5 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	5.5 tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	5.5 tons	Bermudagrass (hay), maint. - No Till

Field Name:

3
 Total Acres: 4.37 Usable Acres: 4.37
 FSA Number: 2 & 8
 Tract: 1308
 Location: Sussex
 Slope Class: B Hydrologic Group: C

Riparian buffer width: 2000 ft
 Distance to stream: 2000 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

N-based

Phosphorus Limit method: VA P-Index Calculation

P-Index value = 13.2

%slope: 0.0 Slope Len: 0.0 R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.36 tons/acre

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2011	7.7	H(73 P lbs/acre)	VH(908 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
10	33A	Myatt Yemassee
90	25B	Slagle

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	5.9 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	5.9 tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	5.9 tons	Bermudagrass (hay), maint. - No Till

Field Name: 4

Total Acres: 5.91 Usable Acres: 5.91

FSA Number: 3.4

Tract: 1308

Location: Sussex

Slope Class: B Hydrologic Group: C

Riparian buffer width: 2000 ft
Distance to stream: 2000 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

N-based

Phosphorus Limit method: VA P-Index Calculation

P-Index value = 13.25

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.63 tons/acre

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2011	8.0	H(84 P lbs/acre)	H(278 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
90	25B	Slagle
10	9B	Craven

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	6.0 * tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	6.0 * tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	6.0 * tons	Bermudagrass (hay), maint. - No Till

Field Name:

Total Acres: 6.68 Usable Acres: 6.68

FSA Number: 3,7
Tract: 1308
Location: Sussex
Slope Class: B Hydrologic Group: C

Riparian buffer width: 500 ft
Distance to stream: 600 ft

Conservation Practices:
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: VA P-Index Calculation
P-Index value = 12.61

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.38 tons/acre

Soil Test Results:
DATE PH P K
Fa-2011 8.4 H(83 P lbs/acre) VH(1379 K lbs/acre)
Lab
Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
10	9B	Craven
45	25B	Slagle
45	21B	Ocilla

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	5.3 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till

2014-Sp 5.3 tons Bermudagrass (hay), maint. - No Till
2014-Fa 2.0 * tons Wheat (silage) - No Till
2015-Sp 5.3 tons Bermudagrass (hay), maint. - No Till

Field Name: 6
Total Acres: 5.63 Usable Acres: 5.63
FSA Number: 3, 4 & 7
Tract: 1308
Location: Sussex
Slope Class: B Hydrologic Group: C

Riparian buffer width: 500 ft
Distance to stream: 600 ft

Conservation Practices:
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: VA P-Index Calculation
P-Index value = 12.73

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.38 tons/acre

Soil Test Results:
DATE PH P K
Fa-2011 8.4 H(83 P lbs/acre) VH(1379 K lbs/acre)
Lab
Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
15	21B	Ocilla
85	25B	Slagle

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	6.3 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	6.3 tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	6.3 tons	Bermudagrass (hay), maint. - No Till

Field Name: 7

Total Acres: 3.81 Usable Acres: 3.81
FSA Number: 4,7
Tract: 1308
Location: Sussex
Slope Class: B Hydrologic Group: C

Riparian buffer width: 900 ft
Distance to stream: 1000 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

N-based
Phosphorus Limit method: VA P-Index Calculation
P-Index value = 12.75

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.38 tons/acre

Soil Test Results:

DATE PH P Lab
Fa-2011 8.0 H(84 P lbs/acre) K H(278 K lbs/acre) Virginia Tech

Soils: PERCENT SYMBOL SOIL SERIES

90 25B Slagle
10 21B Ocilla

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	6.4 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	6.4 tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	6.4 tons	Bermudagrass (hay), maint. - No Till

Field Name: 8
Total Acres: 2.19 Usable Acres: 2.19
FSA Number: 4
Tract: 1308
Location: Sussex
Slope Class: B Hydrologic Group: C

Riparian buffer width: 1400 ft
Distance to stream: 1500 ft

Conservation Practices:
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: VA P-Index Calculation
P-Index value = 12.59

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.38 tons/acre

Soil Test Results:
DATE PH P K Lab

Fa-2011

8.0

H(84 P lbs/acre)

H(278 K lbs/acre)

Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
50	21B	Ocilla
50	25B	Slagle

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	5.8 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	5.8 tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	5.8 tons	Bermudagrass (hay), maint. - No Till

Field Name:

9

Total Acres: 6.68 Usable Acres: 6.68

FSA Number: 8

Tract: 1308

Location: Sussex

Slope Class: B Hydrologic Group: C

Riparian buffer width: 700 ft

Distance to stream: 800 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

N-based

Phosphorus Limit method: VA P-Index Calculation

P-Index value = 14.63

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0

T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.34 tons/acre

Soil Test Results:

DATE PH P K
Fa-2011 8.3 VH(113 P lbs/acre) K
VH(1367 K lbs/acre)

Lab
Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
75	25B	Slagle
10	21B	Ocilla
15	28A	Tomotley

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	5.4 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	5.4 tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	5.4 tons	Bermudagrass (hay), maint. - No Till

Field Name:

10
Total Acres: 6.68 Usable Acres: 6.68
FSA Number: 8
Tract: 1308
Location: Sussex
Slope Class: B Hydrologic Group: C

Riparian buffer width: 700 ft
Distance to stream: 800 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

N-based
 Phosphorus Limit method: VA P-Index Calculation
 P-Index value = 15.73

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
 T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.32 tons/acre

Soil Test Results:

DATE PH P SYMBOL SOIL SERIES K Lab
 Fa-2011 8.3 VH(113 P lbs/acre) VH(1367 K lbs/acre) Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
25	28A	Tomotley
25	21B	Ocilla
50	25B	Slagle

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	4.5 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	4.5 tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	4.5 tons	Bermudagrass (hay), maint. - No Till

Field Name:

Sub 1-3
 Total Acres: 6.80 Usable Acres: 6.80
 FSA Number: 1,2
 Tract: 1308
 Location: Sussex
 Slope Class: A Hydrologic Group: C

Riparian buffer width: 2000 ft

Distance to stream: 2000 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

N-based

Phosphorus Limit method: VA P-Index Calculation

P-Index value = 3.44

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.13 tons/acre

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2011	7.7	H(73 P lbs/acre)	VH(908 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
50	33A	Myatt Yemassee
50	25A	Slagle

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	3.3 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	3.3 tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	3.3 tons	Bermudagrass (hay), maint. - No Till

Field Name:

Sub 4-8

Total Acres: 8.09 Usable Acres: 8.09

FSA Number: 3,4,7

Tract: 1308

Location: Sussex
Slope Class: B Hydrologic Group: C

Riparian buffer width: 800 ft
Distance to stream: 1000 ft

Conservation Practices:
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: VA P-Index Calculation
P-Index value = 1.07

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.38 tons/acre

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2011	8.4	H(83 P lbs/acre)	VH(1379 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
50	25B	Slagle
50	21B	Ocilla

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	5.8 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	5.8 tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	5.8 tons	Bermudagrass (hay), maint. - No Till

Field Name: Sub 9-10

Total Acres: 2.57 Usable Acres: 2.57

FSA Number: 8

Tract: 1308

Location: Sussex

Slope Class: B Hydrologic Group: C

Riparian buffer width: 700 ft

Distance to stream: 800 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

N-based

Phosphorus Limit method: VA P-Index Calculation

P-Index value = 4.77

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0

T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.3 tons/acre

Soil Test Results:

DATE PH P

Fa-2011 8.3 VH(113 P lbs/acre)

K

VH(1367 K lbs/acre)

Lab
Virginia Tech

Soils:

PERCENT SYMBOL SOIL SERIES

30 21B Ocilla

40 25B Slagle

30 28A Tomotley

Field Warnings:

Crop Rotation:

PLANTED YIELD CROP NAME

2012-Fa	2.0 * tons	Wheat (silage) - No Till
2013-Sp	4.1 tons	Bermudagrass (hay), maint. - No Till
2013-Fa	2.0 * tons	Wheat (silage) - No Till
2014-Sp	4.1 tons	Bermudagrass (hay), maint. - No Till
2014-Fa	2.0 * tons	Wheat (silage) - No Till
2015-Sp	4.1 tons	Bermudagrass (hay), maint. - No Till

Tract Name: 2061
FSA Number: 1119
Location: Sussex

Field Name: 11
Total Acres: 6.68 Usable Acres: 6.68
FSA Number: 2
Tract: 2061
Location: Sussex
Slope Class: A Hydrologic Group: C

Riparian buffer width: 600 ft
 Distance to stream: 700 ft

P-Index Summary
 N-based
 Phosphorus Limit method: VA P-Index Calculation
 P-Index value = 15.18

%slope: 0.0 Slope Len: 0. R factor: 0.0 K factor: 0.0
 T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.46 tons/acre

Soil Test Results:
DATE PH P K
 Fa-2011 7.0 M+(32 P lbs/acre) VH(586 K lbs/acre)
 Lab
 Virginia Tech

Soils: PERCENT SYMBOL SOIL SERIES
 80 25A Slagle

20

17A

Myatt

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	56.0 bushel(s)	Wheat (grain) - No Till
2013-Su	104.0 bushel(s)	Sorghum (grain) - No Till
2013-Fa	0.0	Wheat (cover) - No Till
2014-Sp	136.0 bushel(s)	Corn (grain) - No Till
2014-Fa	56.0 bushel(s)	Wheat (grain) - No Till
2015-Su	104.0 bushel(s)	Sorghum (grain) - No Till

Field Name: 12

Total Acres: 4.26 Usable Acres: 4.26

FSA Number: 2

Tract: 2061

Location: Sussex

Slope Class: A Hydrologic Group: C

Riparian buffer width: 600 ft

Distance to stream: 700 ft

P-Index Summary

N-based

Phosphorus Limit method: VA P-Index Calculation

P-Index value = 15.18

%slope: 0.0	Slope Len: 0.	R factor: 0.0	K factor: 0.0
T factor: 0.0	P factor: 1.0	Cmax: 0.000	Erosion: 0.46 tons/acre

Soil Test Results:

DATE PH P

Fa-2011 7.0 M+(32 P lbs/acre)

K

VH(586 K lbs/acre)

Lab

Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
20	17A	Myatt
80	25A	Slagle

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	56.0 bushel(s)	Wheat (grain) - No Till
2013-Su	104.0 bushel(s)	Sorghum (grain) - No Till
2013-Fa	0.0	Wheat (cover) - No Till
2014-Sp	136.0 bushel(s)	Corn (grain) - No Till
2014-Fa	56.0 bushel(s)	Wheat (grain) - No Till
2015-Su	104.0 bushel(s)	Sorghum (grain) - No Till

Field Name: P1

Total Acres: 34.46 Usable Acres: 34.46

FSA Number: 1.2

Tract: 2061

Location: Sussex

Slope Class: A Hydrologic Group: C

Riparian buffer width: 1000 ft

Distance to stream: 1500 ft

P-Index Summary

N-based

Phosphorus Limit method: VA P-Index Calculation

P-Index value = 15.4

%slope: 0.0 Slope Len: 0.0 R factor: 0.0 K factor: 0.0

T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.66 tons/acre

Soil Test Results:

DATE	PH	P	K
Fa-2011	7.0	H-(45 P lbs/acre)	VH(420 K lbs/acre)

Lab
Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
60	25A	Slagle
30	33A	Myatt Yemassee
10	10C3	Craven

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	50.4 bushel(s)	Wheat (grain) - No Till
2013-Su	99.0 bushel(s)	Sorghum (grain) - No Till
2013-Fa	0.0	Wheat (cover) - No Till
2014-Sp	124.0 bushel(s)	Corn (grain) - No Till
2014-Fa	50.4 bushel(s)	Wheat (grain) - No Till
2015-Su	99.0 bushel(s)	Sorghum (grain) - No Till

Field Name: Sub. 4

Total Acres: 20.77 Usable Acres: 20.77

FSA Number: 1 & 2

Tract: 2061

Location: Sussex

Slope Class: A Hydrologic Group: C

Riparian buffer width: 600 ft
 Distance to stream: 700 ft

P-Index Summary
 N-based
 Phosphorus Limit method: VA P-Index Calculation
 P-Index value = 3.68

%slope: 0.0 Slope Len: 0.0 R factor: 0.0 K factor: 0.0
 T factor: 0.0 P factor: 1.0 Cmax: 0.000 Erosion: 0.45 tons/acre

Soil Test Results:

DATE PH P K Lab
 Fa-2011 7.0 H-(45 P lbs/acre) VH(420 K lbs/acre) Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
50	25A	Slagle
30	33A	Myatt Yemassee
10	12B	Emporia Slagle
10	17A	Myatt

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2012-Fa	47.5 bushel(s)	Wheat (grain) - No Till
2013-Su	97.4 bushel(s)	Sorghum (grain) - No Till
2013-Fa	0.0	Wheat (cover) - No Till
2014-Sp	121.4 bushel(s)	Corn (grain) - No Till
2014-Fa	47.5 bushel(s)	Wheat (grain) - No Till
2015-Su	97.4 bushel(s)	Sorghum (grain) - No Till

Application Summary Report

2012: Wheat (silage)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1233	13	3.6	28.0k 19&20(Fa) 28.0k 19&20(Wi)			40-0-0(Wi)	
	14	4.3	28.0k 19&20(Fa) 28.0k 19&20(Wi)			40-0-0(Wi)	
	P3	20.3	28.0k 19&20(Fa) 28.0k 19&20(Wi)			40-0-0(Wi)	
	P4	11.7	28.0k 19&20(Fa) 28.0k 19&20(Wi)			40-0-0(Wi)	
	P5	44.8	28.0k 19&20(Fa) 28.0k 19&20(Wi)			40-0-0(Wi)	
1308	Sub. 5	30.6					
	1	5.9	28.0k 18S(Fa) 28.0k 18S(Wi)			85-0-0(Fa) 40-0-0(Wi)	
	2	6.2	28.0k 18S(Fa) 28.0k 18S(Wi)			40-0-0(Wi)	
	3	4.4	28.0k 18S(Fa) 28.0k 18S(Wi)			40-0-0(Wi)	
	4	5.9	28.0k 18S(Fa) 28.0k 18S(Wi)			40-0-0(Wi)	
	5	6.7	28.0k 18S(Fa) 28.0k 18S(Wi)			40-0-0(Wi)	
	6	5.6	28.0k 18S(Fa) 28.0k 18S(Wi)			40-0-0(Wi)	
	7	3.8	28.0k 18S(Fa) 28.0k 18S(Wi)			40-0-0(Wi)	
	8	2.2	28.0k 18S(Fa) 28.0k 18S(Wi)			40-0-0(Wi)	
	9	6.7	28.0k 18S(Fa) 28.0k 18S(Wi)			40-0-0(Wi)	
	10	6.7	28.0k 18S(Fa) 28.0k 18S(Wi)			40-0-0(Wi)	
Sub 1-3	6.8				85-0-0(Fa)		
Sub 4-8	8.1				85-0-0(Fa)		

Sub 9-10

2.6

85-0-0(Fa)

2012: Wheat (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
2061	11	6.7	28.0k 19&20(Fa) 28.0k 19&20(Wi) 28.0k 19&20(Sp)			35-0-0(Sp)	
	12	4.3	28.0k 19&20(Fa) 28.0k 19&20(Wi) 28.0k 19&20(Sp)			35-0-0(Sp)	
	P1	34.5	28.0k 19&20(Fa) 28.0k 19&20(Wi) 28.0k 19&20(Sp)			35-0-0(Sp)	
	Sub. 4	20.8				100-0-0(Fa)	

2013: Bermudagrass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1233	13	3.6	112.0k 19&20(Sp) 136.0k 19&20(Su)			80-0-0(Su)	
	14	4.3	112.0k 19&20(Sp) 136.0k 19&20(Su)			80-0-0(Su)	
	P3	20.3	112.0k 19&20(Sp) 136.0k 19&20(Su)			80-0-0(Su)	
	P4	11.7	112.0k 19&20(Sp) 136.0k 19&20(Su)			80-0-0(Su)	
	P5	44.8	112.0k 19&20(Sp) 136.0k 19&20(Su)			80-0-0(Su)	
	Sub. 5	30.6				270-0-0(Sp) 60-0-0(Su)	
1308	1	5.9	112.0k 18S(Sp) 136.0k 18S(Su)			60-0-0(Su)	
	2	6.2	112.0k 18S(Sp) 136.0k 18S(Su)			60-0-0(Su)	
	3	4.4	112.0k 18S(Sp)			60-0-0(Su)	

3	4.4	28.0k 18S(Fa) 28.0k 18S(Wi)	40-0-0(Wi)
4	5.9	28.0k 18S(Fa) 28.0k 18S(Wi)	40-0-0(Wi)
5	6.7	28.0k 18S(Fa) 28.0k 18S(Wi)	40-0-0(Wi)
6	5.6	28.0k 18S(Fa) 28.0k 18S(Wi)	40-0-0(Wi)
7	3.8	28.0k 18S(Fa) 28.0k 18S(Wi)	40-0-0(Wi)
8	2.2	28.0k 18S(Fa) 28.0k 18S(Wi)	40-0-0(Wi)
9	6.7	28.0k 18S(Fa) 28.0k 18S(Wi)	40-0-0(Wi)
10	6.7	28.0k 18S(Fa) 28.0k 18S(Wi)	40-0-0(Wi)
Sub 1-3	6.8		85-0-0(Fa)
Sub 4-8	8.1		85-0-0(Fa)
Sub 9-10	2.6		85-0-0(Fa)

2013: Sorghum (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
2061	11	6.7	98.0k 19&20(Su)			25-0-0(Su)	
	12	4.3	98.0k 19&20(Su)			25-0-0(Su)	
	P1	34.5	98.0k 19&20(Su)			25-0-0(Su)	
	Sub. 4	20.8				100-0-0(Su)	

2014: Bermudagrass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1233	13	3.6	112.0k 19&20(Sp) 136.0k 19&20(Su)			60-0-0(Su)	
	14	4.3	112.0k 19&20(Sp) 136.0k 19&20(Su)			60-0-0(Su)	

P3	20.3	112.0k 19&20(Sp) 136.0k 19&20(Su)	60-0-0(Su)
P4	11.7	112.0k 19&20(Sp) 136.0k 19&20(Su)	60-0-0(Su)
P5	44.8	112.0k 19&20(Sp) 136.0k 19&20(Su)	60-0-0(Su)
Sub. 5	30.6		270-0-0(Sp)
1308	5.9	112.0k 18S(Sp) 136.0k 18S(Su)	45-0-0(Su)
2	6.2	112.0k 18S(Sp) 136.0k 18S(Su)	45-0-0(Su)
3	4.4	112.0k 18S(Sp) 136.0k 18S(Su)	45-0-0(Su)
4	5.9	112.0k 18S(Sp) 136.0k 18S(Su)	45-0-0(Su)
5	6.7	112.0k 18S(Sp) 136.0k 18S(Su)	45-0-0(Su)
6	5.6	112.0k 18S(Sp) 136.0k 18S(Su)	45-0-0(Su)
7	3.8	112.0k 18S(Sp) 136.0k 18S(Su)	45-0-0(Su)
8	2.2	112.0k 18S(Sp) 136.0k 18S(Su)	45-0-0(Su)
9	6.7	112.0k 18S(Sp) 136.0k 18S(Su)	45-0-0(Su)
10	6.7	112.0k 18S(Sp) 136.0k 18S(Su)	45-0-0(Su)
Sub 1-3	6.8		235-0-0(Sp)
Sub 4-8	8.1		270-0-0(Sp)
Sub 9-10	2.6		235-0-0(Sp)

2014: Wheat (silage)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1233	13	3.6	28.0k 19&20(Fa) 28.0k 19&20(Wi)			40-0-0(Wi)	
	14	4.3	28.0k 19&20(Fa)			40-0-0(Wi)	

12	4.3	56.0k 19&20(Sp) 98.0k 19&20(Su)	10-0-0(Sp)
P1	34.5	56.0k 19&20(Sp) 84.9k 19&20(Su)	
Sub. 4	20.8		120-0-0(Sp)

2014: Wheat (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
2061	11	6.7	28.0k 19&20(Fa) 28.0k 19&20(Wi) 28.0k 19&20(Sp)			20-0-0(Sp)	
	12	4.3	28.0k 19&20(Fa) 28.0k 19&20(Wi) 28.0k 19&20(Sp)			20-0-0(Sp)	
	P1	34.5	28.0k 19&20(Fa) 28.0k 19&20(Wi) 28.0k 19&20(Sp)			20-0-0(Sp)	
	Sub. 4	20.8				100-0-0(Fa)	

2015: Bermudagrass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Broadcast Commercial	Banded Commercial	Topdress Commercial	Lime (tons)
1233	13	3.6	112.0k 19&20(Sp) 136.0k 19&20(Su)			50-0-0(Su)	
	14	4.3	112.0k 19&20(Sp) 136.0k 19&20(Su)			50-0-0(Su)	
	P3	20.3	112.0k 19&20(Sp) 136.0k 19&20(Su)			50-0-0(Su)	
	P4	11.7	112.0k 19&20(Sp) 136.0k 19&20(Su)			50-0-0(Su)	
	P5	44.8	112.0k 19&20(Sp) 136.0k 19&20(Su)			50-0-0(Su)	
	Sub. 5	30.6				270-0-0(Sp)	
1308	1	5.9	112.0k 18S(Sp)			40-0-0(Su)	

Manure Spreading Summary

Season	Manure	Rate/ac	Tract	Field	Acres	Crop	Total in Field	Running Total				
2012Fa	19&20S	28.0 kgals	1233	13	4	Wheat (silage)	101 kgals	101 kgals				
				14	4	Wheat (silage)	122 kgals	223 kgals				
				P3	20	Wheat (silage)	569 kgals	792 kgals				
				P4	12	Wheat (silage)	326 kgals	1118 kgals				
				P5	45	Wheat (silage)	1253 kgals	2371 kgals				
				11	7	Wheat (grain)	187 kgals	2558 kgals				
				12	4	Wheat (grain)	119 kgals	2677 kgals				
				P1	34	Wheat (grain)	965 kgals	3642 kgals				
				1	6	Wheat (silage)	165 kgals	338 kgals				
				2	6	Wheat (silage)	172 kgals	460 kgals				
	18S	28.0 kgals	1308	3	4	Wheat (silage)	122 kgals	626 kgals				
				4	6	Wheat (silage)	165 kgals	813 kgals				
				5	7	Wheat (silage)	187 kgals	970 kgals				
				6	6	Wheat (silage)	158 kgals	1077 kgals				
				7	4	Wheat (silage)	107 kgals	1138 kgals				
				8	2	Wheat (silage)	61 kgals	1325 kgals				
				9	7	Wheat (silage)	187 kgals	1512 kgals				
				10	7	Wheat (silage)	187 kgals	1512 kgals				
				2012Wi	19&20S	28.0 kgals	1233	13	4	Wheat (silage)	101 kgals	101 kgals
								14	4	Wheat (silage)	122 kgals	223 kgals
P3	20	Wheat (silage)	569 kgals					792 kgals				
P4	12	Wheat (silage)	326 kgals					1118 kgals				
P5	45	Wheat (silage)	1253 kgals					2371 kgals				
11	7	Wheat (grain)	187 kgals					2558 kgals				
12	4	Wheat (grain)	119 kgals					2677 kgals				
P1	34	Wheat (grain)	965 kgals					3642 kgals				
1	6	Wheat (silage)	165 kgals					338 kgals				
2	6	Wheat (silage)	172 kgals					460 kgals				
18S	28.0 kgals	1308	3		4	Wheat (silage)	122 kgals	626 kgals				
			4		6	Wheat (silage)	165 kgals	813 kgals				
			5		7	Wheat (silage)	187 kgals	970 kgals				
			6		6	Wheat (silage)	158 kgals	1077 kgals				
			7		4	Wheat (silage)	107 kgals	1138 kgals				
			8		2	Wheat (silage)	61 kgals	1325 kgals				
			9		7	Wheat (silage)	187 kgals	1512 kgals				
			10		7	Wheat (silage)	187 kgals	1512 kgals				
			2013Sp		19&20S	112.0 kgals	1233	13	4	Bermudagrass (hay), maint	404 kgals	404 kgals
								14	4	Bermudagrass (hay), maint	486 kgals	890 kgals
P3	20	Bermudagrass (hay), maint		2276 kgals				3166 kgals				
P4	12	Bermudagrass (hay), maint		1305 kgals				4471 kgals				
P5	45	Bermudagrass (hay), maint		5012 kgals				9483 kgals				

2013Su	28.0 kgals	2061	11	7	Wheat (grain)	187 kgals	9670 kgals
	28.0 kgals	2061	12	4	Wheat (grain)	119 kgals	9789 kgals
	28.0 kgals	2061	P1	34	Wheat (grain)	965 kgals	10754 kgals
	112.0 kgals	1308	1	6	Bermudagrass (hay), maint	662 kgals	662 kgals
	112.0 kgals	1308	2	6	Bermudagrass (hay), maint	689 kgals	1351 kgals
	112.0 kgals	1308	3	4	Bermudagrass (hay), maint	489 kgals	1840 kgals
	112.0 kgals	1308	4	6	Bermudagrass (hay), maint	662 kgals	2502 kgals
	112.0 kgals	1308	5	7	Bermudagrass (hay), maint	748 kgals	3250 kgals
	112.0 kgals	1308	6	6	Bermudagrass (hay), maint	631 kgals	3881 kgals
	112.0 kgals	1308	7	4	Bermudagrass (hay), maint	427 kgals	4308 kgals
19&20S	112.0 kgals	1308	8	2	Bermudagrass (hay), maint	245 kgals	4553 kgals
	112.0 kgals	1308	9	7	Bermudagrass (hay), maint	748 kgals	5301 kgals
	112.0 kgals	1308	10	7	Bermudagrass (hay), maint	748 kgals	6049 kgals
	136.0 kgals	1233	13	4	Bermudagrass (hay), maint	491 kgals	491 kgals
	136.0 kgals	1233	14	4	Bermudagrass (hay), maint	590 kgals	1081 kgals
	136.0 kgals	1233	P3	20	Bermudagrass (hay), maint	2764 kgals	3845 kgals
	136.0 kgals	1233	P4	12	Bermudagrass (hay), maint	1584 kgals	5429 kgals
	136.0 kgals	1233	P5	45	Bermudagrass (hay), maint	6086 kgals	11515 kgals
	98.0 kgals	2061	11	7	Sorghum (grain)	655 kgals	12170 kgals
	98.0 kgals	2061	12	4	Sorghum (grain)	417 kgals	12587 kgals
18S	98.0 kgals	2061	P1	34	Sorghum (grain)	3377 kgals	15964 kgals
	136.0 kgals	1308	1	6	Bermudagrass (hay), maint	804 kgals	804 kgals
	136.0 kgals	1308	2	6	Bermudagrass (hay), maint	836 kgals	1640 kgals
	136.0 kgals	1308	3	4	Bermudagrass (hay), maint	594 kgals	2234 kgals
	136.0 kgals	1308	4	6	Bermudagrass (hay), maint	804 kgals	3038 kgals
	136.0 kgals	1308	5	7	Bermudagrass (hay), maint	908 kgals	3947 kgals
	136.0 kgals	1308	6	6	Bermudagrass (hay), maint	766 kgals	4712 kgals
	136.0 kgals	1308	7	4	Bermudagrass (hay), maint	518 kgals	5231 kgals
	136.0 kgals	1308	8	2	Bermudagrass (hay), maint	298 kgals	5528 kgals
	136.0 kgals	1308	9	7	Bermudagrass (hay), maint	908 kgals	6437 kgals
2013Fa	136.0 kgals	1308	10	7	Bermudagrass (hay), maint	908 kgals	7345 kgals
	28.0 kgals	1233	13	4	Wheat (silage)	101 kgals	101 kgals
	28.0 kgals	1233	14	4	Wheat (silage)	122 kgals	223 kgals
	28.0 kgals	1233	P3	20	Wheat (silage)	569 kgals	792 kgals
	28.0 kgals	1233	P4	12	Wheat (silage)	326 kgals	1118 kgals
	28.0 kgals	1233	P5	45	Wheat (silage)	1253 kgals	2371 kgals
	28.0 kgals	1308	1	6	Wheat (silage)	165 kgals	165 kgals
	28.0 kgals	1308	2	6	Wheat (silage)	172 kgals	338 kgals
	28.0 kgals	1308	3	4	Wheat (silage)	122 kgals	460 kgals
	28.0 kgals	1308	4	6	Wheat (silage)	165 kgals	626 kgals
18S	28.0 kgals	1308	5	7	Wheat (silage)	187 kgals	813 kgals
	28.0 kgals	1308	6	6	Wheat (silage)	158 kgals	970 kgals
	28.0 kgals	1308	7	4	Wheat (silage)	107 kgals	1077 kgals
	28.0 kgals	1308	8	2	Wheat (silage)	61 kgals	1138 kgals
	28.0 kgals	1308	9	7	Wheat (silage)	187 kgals	1325 kgals
	28.0 kgals	1308	10	7	Wheat (silage)	187 kgals	1512 kgals
	28.0 kgals	1233	13	4	Wheat (silage)	101 kgals	101 kgals
	28.0 kgals	1233	14	4	Wheat (silage)	122 kgals	223 kgals
	28.0 kgals	1233	P3	20	Wheat (silage)	569 kgals	792 kgals
	28.0 kgals	1233	P4	12	Wheat (silage)	326 kgals	1118 kgals
2013Wi	28.0 kgals	1233	P5	45	Wheat (silage)	1253 kgals	2371 kgals
	28.0 kgals	1308	1	6	Wheat (silage)	165 kgals	165 kgals
	28.0 kgals	1308	2	6	Wheat (silage)	172 kgals	338 kgals
	28.0 kgals	1308	3	4	Wheat (silage)	122 kgals	460 kgals
	28.0 kgals	1308	4	6	Wheat (silage)	165 kgals	626 kgals
	28.0 kgals	1308	5	7	Wheat (silage)	187 kgals	813 kgals
	28.0 kgals	1308	6	6	Wheat (silage)	158 kgals	970 kgals
	28.0 kgals	1308	7	4	Wheat (silage)	107 kgals	1077 kgals
	28.0 kgals	1308	8	2	Wheat (silage)	61 kgals	1138 kgals
	28.0 kgals	1308	9	7	Wheat (silage)	187 kgals	1325 kgals
19&20S	28.0 kgals	1308	10	7	Wheat (silage)	187 kgals	1512 kgals
	28.0 kgals	1233	13	4	Wheat (silage)	101 kgals	101 kgals
	28.0 kgals	1233	14	4	Wheat (silage)	122 kgals	223 kgals
	28.0 kgals	1233	P3	20	Wheat (silage)	569 kgals	792 kgals
	28.0 kgals	1233	P4	12	Wheat (silage)	326 kgals	1118 kgals

Season	Manure	Rate/ac	Tract	Field	Acres	Crop	Total in Field	Running Total
2014Sp	18S	28.0 kgals	1233	P5	45	Wheat (silage)	1253 kgals	2371 kgals
		28.0 kgals	1308	1	6	Wheat (silage)	165 kgals	165 kgals
		28.0 kgals	1308	2	6	Wheat (silage)	172 kgals	338 kgals
		28.0 kgals	1308	3	4	Wheat (silage)	122 kgals	460 kgals
		28.0 kgals	1308	4	6	Wheat (silage)	165 kgals	626 kgals
		28.0 kgals	1308	5	7	Wheat (silage)	187 kgals	813 kgals
		28.0 kgals	1308	6	6	Wheat (silage)	158 kgals	970 kgals
		28.0 kgals	1308	7	4	Wheat (silage)	107 kgals	1077 kgals
		28.0 kgals	1308	8	2	Wheat (silage)	61 kgals	1138 kgals
		28.0 kgals	1308	9	7	Wheat (silage)	187 kgals	1325 kgals
28.0 kgals	1308	10	7	Wheat (silage)	187 kgals	1512 kgals		

Season	Manure	Rate/ac	Tract	Field	Acres	Crop	Total in Field	Running Total
2014Sp	19&20S	112.0 kgals	1233	13	4	Bermudagrass (hay), maint	404 kgals	404 kgals
		112.0 kgals	1233	14	4	Bermudagrass (hay), maint	486 kgals	890 kgals
		112.0 kgals	1233	P3	20	Bermudagrass (hay), maint	2276 kgals	3166 kgals
		112.0 kgals	1233	P4	12	Bermudagrass (hay), maint	1305 kgals	4471 kgals
		112.0 kgals	1233	P5	45	Bermudagrass (hay), maint	5012 kgals	9483 kgals
		56.0 kgals	2061	11	7	Corn (grain)	374 kgals	9857 kgals
		56.0 kgals	2061	12	4	Corn (grain)	239 kgals	10096 kgals
		56.0 kgals	2061	P1	34	Corn (grain)	1930 kgals	12025 kgals
		112.0 kgals	1308	1	6	Bermudagrass (hay), maint	662 kgals	662 kgals
		112.0 kgals	1308	2	6	Bermudagrass (hay), maint	689 kgals	1351 kgals
2014Su	19&20S	112.0 kgals	1308	3	4	Bermudagrass (hay), maint	489 kgals	1840 kgals
		112.0 kgals	1308	4	6	Bermudagrass (hay), maint	662 kgals	2502 kgals
		112.0 kgals	1308	5	7	Bermudagrass (hay), maint	748 kgals	3250 kgals
		112.0 kgals	1308	6	6	Bermudagrass (hay), maint	631 kgals	3881 kgals
		112.0 kgals	1308	7	4	Bermudagrass (hay), maint	427 kgals	4308 kgals
		112.0 kgals	1308	8	2	Bermudagrass (hay), maint	245 kgals	4553 kgals
		112.0 kgals	1308	9	7	Bermudagrass (hay), maint	748 kgals	5301 kgals
		112.0 kgals	1308	10	7	Bermudagrass (hay), maint	748 kgals	6049 kgals
		136.0 kgals	1233	13	4	Bermudagrass (hay), maint	491 kgals	491 kgals
		136.0 kgals	1233	14	4	Bermudagrass (hay), maint	590 kgals	1081 kgals
2014Su	18S	136.0 kgals	1233	P3	20	Bermudagrass (hay), maint	2764 kgals	3845 kgals
		136.0 kgals	1233	P4	12	Bermudagrass (hay), maint	1584 kgals	5429 kgals
		136.0 kgals	1233	P5	45	Bermudagrass (hay), maint	6086 kgals	11515 kgals
		98.0 kgals	2061	11	7	Corn (grain)	655 kgals	12170 kgals
		98.0 kgals	2061	12	4	Corn (grain)	417 kgals	12587 kgals
		84.9 kgals	2061	P1	34	Corn (grain)	2926 kgals	15513 kgals
		136.0 kgals	1308	1	6	Bermudagrass (hay), maint	804 kgals	804 kgals
		136.0 kgals	1308	2	6	Bermudagrass (hay), maint	836 kgals	1640 kgals
		136.0 kgals	1308	3	4	Bermudagrass (hay), maint	594 kgals	2234 kgals
		136.0 kgals	1308	4	6	Bermudagrass (hay), maint	804 kgals	3038 kgals
136.0 kgals	1308	5	7	Bermudagrass (hay), maint	908 kgals	3947 kgals		
136.0 kgals	1308	6	6	Bermudagrass (hay), maint	766 kgals	4712 kgals		
136.0 kgals	1308	7	4	Bermudagrass (hay), maint	518 kgals	5231 kgals		
136.0 kgals	1308	8	2	Bermudagrass (hay), maint	298 kgals	5528 kgals		
136.0 kgals	1308	9	7	Bermudagrass (hay), maint	908 kgals	6437 kgals		

Year	Manure	Rate/ac	Tract	Field	Acres	Crop	Total in Field	Running Total
2014Fa	19&20S	136.0 kgals	1308	10	7	Bermudagrass (hay), maint	908 kgals	7345 kgals
		28.0 kgals	1233	13	4	Wheat (silage)	101 kgals	101 kgals
		28.0 kgals	1233	14	4	Wheat (silage)	122 kgals	223 kgals
		28.0 kgals	1233	P3	20	Wheat (silage)	569 kgals	792 kgals
		28.0 kgals	1233	P4	12	Wheat (silage)	326 kgals	1118 kgals
		28.0 kgals	1233	P5	45	Wheat (silage)	1253 kgals	2371 kgals
		28.0 kgals	2061	11	7	Wheat (grain)	187 kgals	2558 kgals
		28.0 kgals	2061	12	4	Wheat (grain)	119 kgals	2677 kgals
		28.0 kgals	2061	P1	34	Wheat (grain)	965 kgals	3642 kgals
		28.0 kgals	1308	1	6	Wheat (silage)	165 kgals	165 kgals
		28.0 kgals	1308	2	6	Wheat (silage)	172 kgals	338 kgals
		28.0 kgals	1308	3	4	Wheat (silage)	122 kgals	460 kgals
		28.0 kgals	1308	4	6	Wheat (silage)	165 kgals	626 kgals
		28.0 kgals	1308	5	7	Wheat (silage)	187 kgals	813 kgals
		28.0 kgals	1308	6	6	Wheat (silage)	158 kgals	970 kgals
		28.0 kgals	1308	7	4	Wheat (silage)	107 kgals	1077 kgals
		28.0 kgals	1308	8	2	Wheat (silage)	61 kgals	1138 kgals
		28.0 kgals	1308	9	7	Wheat (silage)	187 kgals	1325 kgals
28.0 kgals	1308	10	7	Wheat (silage)	187 kgals	1512 kgals		
2014Wi	19&20S	28.0 kgals	1233	13	4	Wheat (silage)	101 kgals	101 kgals
		28.0 kgals	1233	14	4	Wheat (silage)	122 kgals	223 kgals
		28.0 kgals	1233	P3	20	Wheat (silage)	569 kgals	792 kgals
		28.0 kgals	1233	P4	12	Wheat (silage)	326 kgals	1118 kgals
		28.0 kgals	1233	P5	45	Wheat (silage)	1253 kgals	2371 kgals
		28.0 kgals	2061	11	7	Wheat (grain)	187 kgals	2558 kgals
		28.0 kgals	2061	12	4	Wheat (grain)	119 kgals	2677 kgals
		28.0 kgals	2061	P1	34	Wheat (grain)	965 kgals	3642 kgals
		28.0 kgals	1308	1	6	Wheat (silage)	165 kgals	165 kgals
		28.0 kgals	1308	2	6	Wheat (silage)	172 kgals	338 kgals
		28.0 kgals	1308	3	4	Wheat (silage)	122 kgals	460 kgals
		28.0 kgals	1308	4	6	Wheat (silage)	165 kgals	626 kgals
		28.0 kgals	1308	5	7	Wheat (silage)	187 kgals	813 kgals
		28.0 kgals	1308	6	6	Wheat (silage)	158 kgals	970 kgals
		28.0 kgals	1308	7	4	Wheat (silage)	107 kgals	1077 kgals
		28.0 kgals	1308	8	2	Wheat (silage)	61 kgals	1138 kgals
		28.0 kgals	1308	9	7	Wheat (silage)	187 kgals	1325 kgals
		28.0 kgals	1308	10	7	Wheat (silage)	187 kgals	1512 kgals
2015Sp	19&20S	112.0 kgals	1233	13	4	Bermudagrass (hay), maint	404 kgals	404 kgals
		112.0 kgals	1233	14	4	Bermudagrass (hay), maint	486 kgals	890 kgals
		112.0 kgals	1233	P3	20	Bermudagrass (hay), maint	2276 kgals	3166 kgals
		112.0 kgals	1233	P4	12	Bermudagrass (hay), maint	1305 kgals	4471 kgals
		112.0 kgals	1233	P5	45	Bermudagrass (hay), maint	5012 kgals	9483 kgals
		28.0 kgals	2061	11	7	Wheat (grain)	187 kgals	9670 kgals
		28.0 kgals	2061	12	4	Wheat (grain)	119 kgals	9789 kgals
		28.0 kgals	2061	P1	34	Wheat (grain)	965 kgals	10754 kgals
		112.0 kgals	1308	1	6	Bermudagrass (hay), maint	662 kgals	662 kgals

112.0 kgals	1308	2	6	Bermudagrass (hay), maint	689 kgals	1351 kgals
112.0 kgals	1308	3	4	Bermudagrass (hay), maint	489 kgals	1840 kgals
112.0 kgals	1308	4	6	Bermudagrass (hay), maint	662 kgals	2502 kgals
112.0 kgals	1308	5	7	Bermudagrass (hay), maint	748 kgals	3250 kgals
112.0 kgals	1308	6	6	Bermudagrass (hay), maint	631 kgals	3881 kgals
112.0 kgals	1308	7	4	Bermudagrass (hay), maint	427 kgals	4308 kgals
112.0 kgals	1308	8	2	Bermudagrass (hay), maint	245 kgals	4553 kgals
112.0 kgals	1308	9	7	Bermudagrass (hay), maint	748 kgals	5301 kgals
112.0 kgals	1308	10	7	Bermudagrass (hay), maint	748 kgals	6049 kgals
136.0 kgals	1233	13	4	Bermudagrass (hay), maint	491 kgals	491 kgals
136.0 kgals	1233	14	4	Bermudagrass (hay), maint	590 kgals	1081 kgals
136.0 kgals	1233	P3	20	Bermudagrass (hay), maint	2764 kgals	3845 kgals
136.0 kgals	1233	P4	12	Bermudagrass (hay), maint	1584 kgals	5429 kgals
136.0 kgals	1233	P5	45	Bermudagrass (hay), maint	6086 kgals	11515 kgals
98.0 kgals	2061	11	7	Sorghum (grain)	655 kgals	12170 kgals
98.0 kgals	2061	12	4	Sorghum (grain)	417 kgals	12587 kgals
98.0 kgals	2061	P1	34	Sorghum (grain)	3377 kgals	15964 kgals
136.0 kgals	1308	1	6	Bermudagrass (hay), maint	804 kgals	804 kgals
136.0 kgals	1308	2	6	Bermudagrass (hay), maint	836 kgals	1640 kgals
136.0 kgals	1308	3	4	Bermudagrass (hay), maint	594 kgals	2234 kgals
136.0 kgals	1308	4	6	Bermudagrass (hay), maint	804 kgals	3038 kgals
136.0 kgals	1308	5	7	Bermudagrass (hay), maint	908 kgals	3947 kgals
136.0 kgals	1308	6	6	Bermudagrass (hay), maint	766 kgals	4712 kgals
136.0 kgals	1308	7	4	Bermudagrass (hay), maint	518 kgals	5231 kgals
136.0 kgals	1308	8	2	Bermudagrass (hay), maint	298 kgals	5528 kgals
136.0 kgals	1308	9	7	Bermudagrass (hay), maint	908 kgals	6437 kgals
136.0 kgals	1308	10	7	Bermudagrass (hay), maint	908 kgals	7345 kgals

2015Su

19&20S

18S